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THE
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OF
MEDICAL SCIENCE.

EDITED BY
SIR JOHN W. MOORE, B.A., M.D., M.CH. DUBL., D.SC. OXON.;
EX-PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND;
SENIOR PHYSICIAN TO THE MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY;
CONSULTING PHYSICIAN TO CORK-STREET FEVER HOSPITAL;
EX-SCHOLAR OF TRINITY COLLEGE, DUBLIN;
FELLOW OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*A Fatal Case of Myxœdema.*[a] By HENRY C. DRURY, M.D. Univ. Dubl.; F.R.C.P.I.; Physician to Sir Patrick Dun's Hospital, Dublin.

MRS. M. A. K., aged forty-two, was admitted to Sir Patrick Dun's Hospital on the evening of the 29th of February, 1904, and died on the morning (3 a.m.) of the 4th of March, 1904, having been under observation only 3 days.

The following notes of her history, and condition on admission, were made by my resident pupil, Mr. M'Neight:—

"She says she had been confined to bed for the last 4½ months owing to general weakness. After 6 weeks in bed she got a good deal worse, and lay in a semi-conscious condition, passing both urine and fæces under her. At this time she got a bed-sore, which is still unhealed. She says she received no medical treatment till 3 days ago, when she was attended by a Jubilee nurse. Five years ago her right breast was amputated in a Dublin hospital. She has had 10 children. On admission the patient was in an absolutely prostrate condition, and almost powerless. Her skin feels extremely cold and quite dry, very tough and leathery. The skin over the abdomen is flaccid and wrinkled, and well marked with lineæ gravidarum. The subcutaneous tissue, which is fairly plentiful, feels hard and leathery, and unlike fat. The face is unmarked by any lines except under the eyes; the forehead, however, has strongly marked horizontal lines. The upper and lower eyelids are puffy, not very markedly so, but of a peculiarly soft, velvety feel, and of delicate semi-translucent or waxy appearance. The hollows at the sides of the nose are, to a great extent, obliterated. Her cheeks are plump and have a striking bright red colour, not due to flush, but to myriads of minute dilated capillaries. The lower lip is protuberant. The hair of the head is scanty for a woman of her age, somewhat thinned at the sides and above the forehead, and rather coarse in texture; the eyebrows are very thin and scanty; in each axilla there are only one or two hairs, and there is a very scanty supply of pubic hair. There is great fulness of the angle between the neck and shoulder. Her hands have not a 'spade' appearance, and do not look swollen, but they are well covered, and she has had to have her wedding ring cut and enlarged, as it became too tight. The feet are so swollen that they look as if very œdematous, but they do not pit on pressure. There are numerous old sores on the feet and legs, due, we were told later, to burns from hot bottles. No thyroid can be felt. Her speech is extremely slow; she takes some time to answer questions, and it is difficult to get any information from her, but her speech does not seem thick, nor does the tongue look specially enlarged. Her movements are very slow when she moves at all, which is rare. She complains of great pain about the lumbar region of the back when she is stirred. It is difficult to move her at all, as she lies like a log in bed. Her heart sounds were inaudible, and neither apex beat nor pulse at the wrist could be felt. Though several attempts were made to take her temperature, even in the vagina, no result could be obtained with the ordinary clinical thermometer."

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[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, May 13, 1904. [For the discussion on this paper see page 65.]

March 1.—I examined her on the morning after her admission and confirmed the above observations. She had slept only about two hours, and there was great difficulty in keeping her warm. She was conscious, but confused, giving different answers to the same question at different times—*e.g.*, she said at one time, that her breast had been amputated five years ago in one hospital; at another time, she said six months ago, in quite another hospital. The pulse at the wrist was not perceptible, but the heart could just be heard, and its rate was made out to be 52. The breast scar looked old and healthy; there was no appearance of new growth in its neighbourhood, nor any sign of enlarged glands or of new growth elsewhere. She was ordered tr. digitalis ♏ 10, tr. nucis vom. 7½♏ t.i.d., whisky ℥iv., and 1¼ gr. (½ of tabloid 2½ gr.) thyroid extract twice a day ; hot bottles to be placed all around her, and any food she would take. In the evening a thermometer with low temperature scale was obtained. Repeated trials in the vagina, the instrument being read *in situ*, showed the temperature to be only 86° F. There was a very slight wheeze heard in her lungs all over, but it was so little that no importance was attached to it at the time. Her urine was scanty, but did not contain albumen.

March 2.—As yesterday evening advanced her mind became more feeble, and wandered during the night. Her skin felt absolutely cold. The morning temperature was 85°, a pulse could just be felt at the wrist, and the heart beating at 56 per minute could, with care, be made out with the stethoscope. Her mind wandered continuously during the day. The wheezing had increased in the chest, and was now pronounced all over, and the breathing was more hurried. She was kept wrapped in hot blankets, and the same treatment which had been ordered the day before was continued.

In the evening the temperature had risen to 89.5°, and the pulse to 108, and was more easily felt. The skin felt warmer. She had passed no urine since the previous day, so a catheter was passed and fifteen ounces were drawn off. The bowels were relieved of a large constipated motion by enema.

March 3.—She was delirious all night, and towards morning passed urine under her. The temperature remained at 89.5° ; the pulse could not be counted either at the wrist or at the heart. The breathing became much more laboured, and over the whole chest there was loud wheezing. She lay apparently quite unconscious.

Towards evening she appeared a little better except for the condition of the lungs, which caused real anxiety. Her skin felt a little less cold, her temperature remained at 89.5°, and the pulse could be made out to be 72. Still the breathing was very laboured, bronchitis was increasing, and she was profoundly weak.

March 4.—At 3 a.m. the night nurse gave her a little hot drink, the patient spoke to her, and the next moment she was dead. No *post-mortem* examination could be obtained.

Remarks.—This was surely an avoidable death, for it seems hardly credible that a woman, not even poverty-stricken, would be confined to bed for 4½ months, in a populous district of Dublin, without the medical attendance which, on the recognition of her disorder, could have certainly restored her to health.

A bedsore occasioned her removal to hospital. The day of her removal was one of great severity, with high penetrating N.E. wind, and of extreme cold. The next day, March 1st, opened with the same intense cold, high wind and copious snow falls. Probably it was this circumstance which baffled our attempts to save her life in hospital. Her low body temperature and profoundly enfeebled condition must have been seriously affected by the removal from her bed on such a cold day, with a drive in the ambulance of about a mile and a half to hospital. This was quite sufficient to account for the bronchitis which was noticed commencing the day after her admission, and which steadily progressed. The rise of temperature from 85° to 89.5° was probably an expression of actual fever in her case, and not merely a reaction due to treatment, as it was too abrupt and was not accompanied by any other evidence of improvement; indeed the time was too short to expect any such.

One could scarcely credit the reality of an internal temperature of 85° or 86° F., but it was undoubtedly so. It was repeatedly taken with the greatest care, the thermometer being placed in the vagina and read *in situ* as it was not self-registering. The instrument also was reliable, being a " Centigrade," used for laboratory work.

Murray, in his monograph on diseases of the thyroid, mentions a case in which a temperature of 77° was recorded, and one in which it was 63° shortly before death. In the present case, between 1 and 2 o'clock one night, a temperature of 82° was found, but it was not officially recorded at the time, and so is not included in the statement of the case.

The appearance of this case was very striking, as when first seen lying covered up in bed the face and head was like that of a big, florid country woman. Having heard just before entering the ward that neither temperature nor pulse could be recorded, the diagnosis suggested itself the very moment she was seen.

Her speech was the slowest and most deliberate we have ever heard, and in spite of the fact that her daughter said she always spoke slowly to conceal a stutter, we have no hesitation in considering the extreme slowness to have been due to the disease. If she always spoke somewhat deliberately, an increasing slowness, taking perhaps years to develop, might easily pass unnoticed by friends who were constantly with her.

It appears that on more than one occasion while at home she had become delirious, and passed her evacuations unconsciously, so that her friends were not greatly surprised or much alarmed at this symptom appearing with us. It is probable that the bronchitis, with its accompanying respiratory embarrassment, was responsible for her death, by throwing such increased strain on the greatly enfeebled heart, that it suddenly failed.

Cold is well known to have a disastrous effect on myxœdema; cases are always worse during winter, and especially on the colder days. In the past, before remedial treatment was known, the cases usually terminated by death during cold weather.

The extraordinary sensation of this patient's dry, harsh, cold skin, especially on the abdomen and round the loins, was very impressive.

Though we recognised the profoundly serious condition she was in from the first, we had such faith in treatment that we hoped for a more favourable termination, yet were not the least surprised to hear of her death.

The necessity of caution in commencing thyroid treatment was recognised also, and small doses were given. The supervention of delirium caused some misgiving as to whether the amount ordered might be too much—1¼ grain twice a day—but on learning that this symptom had more than once appeared while she was lying at home untreated, we considered we were justified in continuing without change.

ART. II.—*The Present Position of Radium in Therapeutics, with a Résumé of the Finsen Light and X-ray Treatment.*[a] By C. M. O'BRIEN, M.D., L.R.C.P.; Physician to the City Hospital for Diseases of the Skin and Cancer.

IN December, 1902, I had the honour of reading a paper before this Academy on a year's experience of the Light Treatment, in which I described my method of applying both the Finsen Light and X-rays, discussing in brief the conditions in each case which appeared to me favourable to the adoption of one or other or both of the methods. I found it difficult then, and it would be much more difficult now, to discuss either method separately, for in the general routine of hospital non-selected cases the two methods of treatment markedly overlap, and with best results.

Times beyond count the physician is confronted with the crux, " which method should I employ in this new case, the Finsen Light or X-rays," and frequently the question founded on experience irresistibly suggests the answer, " use both." In all such cases (and they are many, especially in lupus), needless to say, sentiment and hero-worship must be suppressed, and the best method, or a combination of the best methods, only employed in the interest of humanity.

In the discussion that ensued on that paper it was suggested that I should again bring forward the cases then exhibited, and in compliance with that suggestion I have the honour of now submitting for your inspection a few who were within easy reach, while holding written replies of a reassuring nature from most of those who have returned to the Provinces, where they are at present pursuing their avocations on terms of equality with other members of the community—some after a lapse of 28 years.

CASE I.—A girl, aged twenty-four.

Condition on Admission to the Skin Hospital in May, 1902.—She presented an extensive yellowish dark incrustation, involving the alæ nasi, tip and bridge of nose, the prominence of both cheeks and greater part of upper lip, the nasal cavity being much encroached upon by lupoid vegetation. The lupus was of four years' standing. She had been operated upon four times under chloroform prior to her admission to the light treatment. She received the Finsen Light to the face, and X-rays exposures to the nose.

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[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, May 13, 1904. [For the discussion on this paper see page 65.]

CASE II.—A girl, aged thirty-one.

Condition on Admission to the Skin Hospital in December 1901.—The lupus had involved both cheeks, with considerable destruction of the alæ nasi and septum. Connecting the patches on both cheeks a band of ulceration, horse-shoe in shape, was perceptible, involving the greater part of the bridge of the nose. The disease was of 16 years' standing, and had been surgically treated 12 times before her admission to the light treatment, which included both the Finsen Light to the face and X-rays to the nose.

CASE III.—A girl, aged twenty-one.

Condition on Admission to the Skin Hospital in April, 1902.—She presented a small, well-defined ulcer involving the right ala nasi, and extending up the right nasal cavity, the mucous membrane of which was swollen, granular, and bled easily. The lupus was of five years' standing, and had been operated on four times under an anæsthetic prior to her admission to the light treatment. She received both the Finsen Light and the X-rays.

CASE IV.—A boy, aged thirteen.

Condition on Admission to Skin Hospital, December, 1901.—He presented a circular ulcer, something larger than a shilling, situated on left cheek. The edges of ulcer were infiltrated, and its base contained typical apple-jelly nodules. The disease was of nine years' duration, and had been surgically operated upon under anæsthetics six times before his admission to the light treatment. He received the Finsen Light only.

Of the foregoing cases presented to you for re-examination, and whose histories were given in greater detail, with illustrations, in my former paper, no treatment has been given for nearly a year, with the exception of Case I., in whom the disease recurred in the mucous membrane of the nose, and to whom the high frequency current is at present being applied.

The foregoing *résumé* of the light treatment brings me to the subject of my present paper—Radium—the latest therapeutic remedy upon which medical science has been called on to adjudicate. This remedy has already received so much notoriety in the lay Press that I consider it both opportune and necessary that its therapeutic results should be recorded at once with accuracy by operators who have tried it, and whose method of procedure has been open to the inspection and investigation of the profession. We may thus spare public feeling the pain of disappointment, so often the outcome of sensational exaggeration, while at the same time safeguard from disfavour, and probably disuse, a method I believe we are justified in assuming is full of promise.

I will not tire you with the history which led to the discovery of radium, and with which the names of Madame and Monsieur Curie are so inseparably associated. But what appears to me the most characteristic feature associated with it and with most of the great discoveries of our own times is the sequence with which the one led up to the other, compelling Nature, as it were, to divulge her secrets, while at the same time serving as finger-posts to future research.

In 1882 Koch discovered the cause of consumption, and eight years later he declared he had found its cure by injecting tuberculin.

In 1894 Finsen, after years of patient experiment, proclaimed that by concentrating certain rays of the solar spectrum he could kill the bacillus which Koch had found but failed to conquer.

In 1895 Röntgen convulsed all Germany, and indeed the scientific world generally, by his statement that he had discovered rays which were not only curative, but could render the human body transparent.

In 1896 Becquerel discovered that uranium emitted rays akin to Röntgen-rays, but weaker, and it was doubtless this important link in that chain which led to the discovery of radium by the Curies two years later.

I shall not dwell on the physical or chemical properties of this great metal, excepting so far as they apply to practical medicine. The power possessed by radium of emitting rays which manifest different penetrative and therapeutic effects is the one property of all others which most strongly appeals to the physician. Whether or not these rays are identical with X-rays is a matter upon which much diversity of opinion at present exists. I am indebted to Dr. Reginald Morton for a copy of a paper kindly sent me in which he discusses this difficult and important question most clearly and concisely.

An approximate knowledge of the penetrative power of radium rays may be obtained by the ordinary X-ray screen in a dark room. My own specimen of 5 milligrams—all I could possibly procure last September of a reliable standard—when held half an inch behind a bar of metal 1¼ inch thick, caused distinct fluorescence of the ordinary X-ray screen, and when held at a distance of three or four inches behind the screen, and the hand was then interposed between the radium and screen, the general contour of the hand became manifest, but to a much lesser extent than in the case of X-rays. These experiments are not only interesting, but easy to make.

Unfortunately, the supply of radium is so limited that even in the out-patient department of large skin cliniques much difficulty is experienced in procuring suitable cases for this method of procedure. Hence operators are precluded even now from dogmatising on its therapeutic merits.

The method and duration of its application were additional difficulties which early workers had to encounter, and the difficulty in definitely fixing a period of application which will apply equally to all is well illustrated in the history of my cases given below. Where different patients with like disease, similarly situated, had the same specimen of radium applied under like conditions to patches of lupus of equal size and depth, which had not been previously treated, in one case twenty applications of ten minutes' duration were sufficient to establish a cure, while in the other twenty applications of ten minutes' duration were insufficient to create any alteration excepting slight redness and itching.

It may be that personal susceptibility of a patient, so important a factor in the Finsen Light and X-ray methods, may also have to be reckoned with in the treatment by radium-rays.

Case I.—A male, aged thirty; unmarried; clerk. Has been the subject of extensive lupus of the face for twenty years, during which time he has been applying nitrate of silver and other caustics weekly, and has had it scraped under an anæsthetic seven times. He is at present receiving both the Finsen Light and X-rays, and is steadily yielding to this course. About two years ago he developed a patch the size of a sixpenny piece over right eye-brow, close to the orbital margin and inner angle of the orbit. The patch was circular in shape, with irregular edges which were slightly raised above surrounding skin, and capped with a yellowish crust in centre. The position at once suggested treatment by radium because of the extreme difficulty of applying either the Finsen Light or X-rays.

On December 16th, 1903, having removed the crust, I applied, in close apposition with the patch, 5 milligrammes of radium bromide in a vulcanite capsule with a circular window of mica, for the easy transmission of the radium rays.

From Dec. 16th, 1903, to Feb. 10th, 1904, he had in all 20 applications of ten minutes' duration. Nothing perceptible had occurred in the progress of the case until the end of the 5th week, when the edges of the patch became more prominent, slightly redder, and an itchy sensation was complained of, with a slight discharge from the patch for the first time.

The further treatment was persisted in, and five additional applications given of the usual duration, and at intervals as before.

On Feb. 10th, the date of last application, the edges of patch were more swollen and redder, and although the itching had practically ceased, the patient complained of stiffness of the muscles, which became more manifest on wrinkling the brow. The discharge referred to before, meantime, increased. The treatment was now stopped, swelling and discharge subsided, and in three weeks later the patch, although still red, had assumed the appearance of a healthy scar. No external applications of any kind were applied prior to, during, or since the treatment above described.

Case II.—A girl, aged sixteen, was admitted to Skin Hospital, Dec. 21st, 1903, having suffered for about seven years from a patch of lupus, the size of a sixpenny piece, of a reddish colour with raised edges, covered with branny scales. Patient suffered no pain. She sought treatment now only because she thought it was beginning to spread, and becoming more unsightly. On Dec. 21st, 1903, five milligrammes of radium bromide were applied in direct contact with patch, there being no discharge from sore in this as in the former case which could in any way diminish the radio-activity of the specimen employed. Between Dec. 21st, 1903, and March 18th, 1904, sixty-one applications were given. 1st month—five applications weekly, of ten minutes' duration, without manifesting any visible change excepting a slight redness. 2nd month—twenty applications of thirty minutes' duration were given, the redness of margin becoming more pronounced, accompanied by itching, but no discharge. 13th Feb., duration of application was increased to 45 minutes, of which 15 such applications were given, with the result—the edges of patch became swollen, with the sensation of pins and needles in part, and a discharge on pressure. The treatment was still continued, and six further applications were given of 60 minutes each, the last on March 18th, when the treatment was stopped. A week later the pain, swelling, and discharge had diminished, the base of ulcer was clean and healthy looking, but the edges somewhat raised. No treatment or external applications of any kind were applied prior to, during, or since the treatment mentioned.

Concluding Remarks.—Radium, to be of practical use in the cure of disease or the alleviation of human suffering, must be forthcoming in much larger quantities, of a recognised standard of activity, and at a very much cheaper to detail what I have already achieved and how I rate. From my own experience of the metal I prefer achieved it, rather than to express an opinion on its merits which might in any way circumscribe its sphere of application or prevent others from putting it to the test.

For diagnostic purposes it is very doubtful indeed if radium can ever be of much use. With the X-rays we have much grounds for hope in both lupus and rodent ulcer, and, combined with the Finsen Light, the results recorded are becoming more universal and more reassuring.

In my previous paper I expressed the belief that the Finsen Light for circumscribed superficial lupus had no equal. Now, after eighteen months' further experience, I am more convinced than ever of its efficacy. But it will be for you to say whether or not I have claimed for the method more than my results justify.

Art. III.—*Preliminary Note on the Influence of the Sinusoidal Alternating Electrical Current on the Organs of Circulation.* By Paul C. Franze, M.D. (Nauheim, Germany).

It has been alleged of late years that ordinary fresh water baths through which the sinusoidal alternating current is conducted have a marked influence on the debilitated heart, and that such baths are a reliable means of curing dilatation with muscular weakness. Having recently investigated the action of such baths on the volume, frequency, and tension of the pulse, on the outlines of the heart, and on blood-pressure, I feel justified in publishing a preliminary note on the results obtained.

The research was carried out in the following manner:—In a number of cardiac cases and in a few healthy persons I determined immediately before and after each electrical bath the area of cardiac dulness, the frequency, volume, tension, rhythm of the pulse and the blood-pressure. The temperature of the water was 35 or 36 degrees Cent., thus excluding all thermal influences. The duration of each bath was ten minutes. The following symptoms were observed:—On an average the pulse-rate diminished after the bath by five beats per minute, and blood-pressure rose by eight millimetres of quick-silver. The largest fall in the number of systoles per minute amounted to twelve, and the greatest rise of blood-pressure to 25 mm. Hg. I uniformly noticed an increase in the tension of the arteries; their tone was increased. I must, however, mention that I had an opportunity of examining only cases of previously diminished tonus.

With regard to the important question, whether a single electrical application of the above type can remove a certain amount of cardiac dilatation, I found that in a small degree this question can be answered in the affirmative. I especially would advert to one of my cases, an aortic insufficiency, with very marked dilatation to the left and heaving apex beat, which permitted the precise localisation of the left border by palpation. Here I could satisfy myself that after the bath sinistral dilatation was distinctly reduced, the apex beat being less violent and having receded appreciably.

In briefly comparing these effects with those of the effervescent brine baths of Nauheim we must bear in mind that the capillary dilatation during the period of "reaction" in the latter is of great value. This follows from the physiological considerations of the conditions applicable to the current in the vessels—viz., the velocity of the current in a certain vascular area depends upon the difference between the pressure at the beginning and at the end of the area. Therefore, the decrease of peripheral resistance increases the velocity of the current. In the above electrical bath no reaction ensues. But in arterioparalysis the improvement in tension and in cardiac contraction suggests the method as a valuable adjunct in the treatment of such cases.

Therefore, I propose to use the type of electrical treatment under consideration in cases indicating it, supplemental to, but not in lieu of, the standard Nauheim treatment by mineral baths, massage, and resistance exercises. And already I have observed in many cases most favourable results from such a combination.

ART. IV.—*Hypnotism and Latah.* By PERCY N. GERRARD, M.D. Univ. Dubl.; Acting Residency Surgeon, Pahang.

A JAVANESE woman, aged about thirty-five, healthy, stout, and in every way apparently sound, gives the following history of her affection of "Latah," from which she has suffered for the past twenty years. Twenty years ago, whilst bathing in a river, she was attacked and caught by a crocodile, in the region of the left shoulder; the bite was not severe, and at the time of examination there was no mark. Her husband, an intelligent Malay, appears to doubt the story of the crocodile. She proceeds to state that after having been bitten she could not recognise people, but thought nothing more of the event until one year afterwards: she, happening to be present at a confinement in which the child was born somewhat precipitately, became startled, and without being aware of what she did, seized the infant and held it to her bosom, repeating at the same time "a lot of nonsense." Her friends, therefore, marked her as a "Latah" person, and she has since been the victim of their practical jokes from time to time. When suddenly frightened or struck she says that her head "goes round," she becomes giddy and does not recognise people, is absolutely unaware of what she does, and has no control over or remembrance of her actions. When prepared for any shock she is unaffected, according to her statement, but that this statement is not strictly accurate may be judged from the following notes of experiments made. If suddenly wakened from sleep she becomes "Latah." *The duration of her paroxysm is directly proportional to the period of continuance of suggestion or excitation,* but she usually, when left to herself after having been "Latahised," recovers in about half an hour, and can then recognise people and becomes herself again. After the condition has faded and she has regained her normal state, which usually occurs by sleep, she suffers from headaches of varying intensity which affect the frontal and occipital regions only. She is the fifth child in a family of six, two brothers and two sisters being older, and one sister, younger; no other member of the family has been "Latah," nor have her father or mother been affected. During the post-Latah sleeps she dreams invariably that she is flying amongst white ladies and men, all winged, and some of them riding on winged horses.

Whilst taking the notes of the above history of this extremely interesting case I was seated in her house beside her, while two Europeans and her husband were seated opposite. Having obtained my information I explained to her most fully that I was about to try her powers of resistance when aware of a projected attempt to produce her "Latah." I then "poked her in the ribs" and clapped my hands sharply, but produced no effect, until when averting her head to answer a question of one of the others present a sudden "dig" caused her to exclaim, and she turned upon me and struck back at me, crying out "Allah, Allah, Tuan," mingled with language which I have not the slightest doubt she was not in the habit of using, save on the occasions of her induced "acerebration." Each word I spoke she repeated. "Stop," I cried in Malay, and her reply was, "stop." "Keep quiet," "it is all over," "you are all right again," simply produced the parrot-like repetition of my words and imitation even of their tones. No impression could be made with the voice upon the unfortunate woman whilst in her "rapport"; the effect of contact was, however, marked. Having caught her wrist firmly in my left hand, and endeavouring to fix her gaze with my eyes, I ordered her sternly to be still, and after the third time of ordering in this way she became quiet.

During the first interview quoted above, and after her recovery from what I may perhaps call the *petit mal*, I reiterated my intention of coming again in the evening and startling her in order to produce the condition, and I gave her a small piece of pencil on leaving the house, which I ordered her (*while unhypnotised*) to grasp tightly and to remember that so long as she thought of the pencil none could make her "Latah."

My last visit took place about 6 p.m., and was productive of some extraordinary phenomena. As is well known in "Latah" cases, the fact that once the condition is established, the victims are at the beck and call and under the influence of any one present, was exceedingly well brought out, and several interesting points concerning the effect of hypnotism in this derangement shown up with glaring distinctness. There were in the room at my last visit two Europeans and myself, my Malay "boy," the husband, and another man. After some business conversation between one of the Europeans (the Mine Manager) and the husband, she invited us to come in and sit down, which we all did, and general conversation ensued, and the lady proved herself to be quite interesting and self-possessed. At a given signal her husband suddenly faced her, and raising both hands in the air brought them down upon the bamboo floor with a loud noise. The effect was instantaneous. She gave a little scream, and immediately started jabbering, using in the main language not fit for publication. He then ordered her to salute me, which she immediately did in military fashion, her face at the same time wearing an expression of mingled perplexity and fear, repeating rapidly all orders given to her while executing the same. My position was beside her, and while she saluted I drew from my pocket a common candle which had been partly consumed. This I handed to her and said "eat it," whereupon she took a ravenous bite off the end which had been lighted, and began to chew it as if her life depended on it. I immediately endeavoured to stop her by commands, but all to no purpose. I then said "spit it out," and pretended to splutter, whereupon she repeated "spit it out," and she spluttered out the half-chewed candle and some beetle nut which she had been chewing at the time of our entrance. Her excited condition, however, continuing unabated and her receptivity evidently unchecked, I determined to try the effect of suggestions under conditions more similar to what obtains in the hypnotic state. Having ordered her to lie down the order was promptly obeyed, while she repeated it to herself. I then told her to go to sleep, and closing her eyes with my hand, I made some direct contact passes over the forehead and temples, suggesting at the same time, sleep. This I continued for about 30 seconds. I then suggested, "You are now quite well again, and you must wake up." She opened her eyes and sat up, uttered a long drawn sigh, and when asked what she had done, declared that she had done nothing. Asked whether she had eaten anything, she denied it flatly and firmly. Whether she had saluted me, she said "No." When asked whether she was quite well, she said, "Yes, except for her head, which ached severely." I then ordered her to lie down again, and suggested to her to sleep, and after a brief period suggested that the headache was all gone, that she was quite well, and could not again be made "Latah" by any one. When asked how her headache was, she declared that she had "no headache, and was quite well." I instructed her husband as to the method of procedure in producing sleep and waking, and asked him to put her to sleep every day for a very short time, and to suggest that she would no longer be "Latah." The further history of this case I hope to be able to report later my excuse for this preliminary paper being the remarkably rapid effect of the hypnotic sleep, and the equally remarkable result of the suggestions made to the patient during that sleep, all tending to show that in all probability hypnotism, if properly and systematically carried out in these cases, promises, if not perfect cures, at least a field of experiment as fertile as any to be found amongst the French school of hypnotists.

ART. V.—*Gas-poisoning in Dublin.*[a]

By E. J. McWEENEY, M.A., M.D., D.P.H., M.R.I.A.; Professor of Pathology and Bacteriology at the C. U. Medical School; Pathologist to the Mater Misericordiæ Hospital, Dublin.

DURING the past three years no less than ten cases of coal-gas-poisoning have occurred in Dublin. Seven of these were fatal. During the previous twenty years no case of the kind is recorded as having occurred. As the mode of using coal-gas can hardly be regarded as having changed, the sudden commencement of fatalities from inhaling it can be ascribed only to some change in the gas itself. I propose, in the first place, to detail the cases, with all save three of which I was personally concerned. They are divisible into four groups:—

GROUP I., COMPRISING FOUR CASES (ONE FATAL).

This occurrence took place in Nov., 1901, at a small house in Eccles-place *to which gas was not laid on.* There were only two rooms in the house, one over the other. In the lower room—the kitchen—dwelt a man and his wife, whilst her father and his son slept in the upper room. This room had no fire-place. The old man (aged sixty-seven) was a coal labourer; the son-in-law was employed on the railway. On the 15th Nov. all four persons were feeling unwell, and the son-in-law sent for a doctor, who, on arrival, perceived a strong smell, suggestive of mixed coal and sewer-gas, pervading the house. He cautioned the inmates on no account to sleep in the house that night. To this warning they paid no heed and slept there as usual, retiring at 10 p.m. Next morning, between 6 and 7 a.m., the son-in-law felt so unwell that he left his bed and went to the Mater Hospital. He complained of headache, vomiting and prostration; pulse 120. There was some suspicion of ptomaïn-poisoning, as he had partaken of tinned fish the previous day. After a time he felt better and returned home. Nothing more was heard of the family till noon on the following day (Nov. 17), when another married daughter of the old man knocked at the hall-door, and after some time was admitted by the son-in-law. He staggered after opening the door, and seemed giddy and stupefied. His wife was in a similar plight. The police were sent for, and on going up stairs they found the old man lying dead and naked on the floor. The son was sitting in a dazed condition at the top of the stairs.

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[a] Read in the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, April 22, 1904.

Autopsy.—This I performed next day at the Mater Hospital whither the body was conveyed. Body that of a well-nourished elderly man. Hands black (from handling coal). Face pale. The lips, ear-tips, and *post-mortem* stains over the trunk were bright pinkish-red. Pupils normal. Rigor mortis well marked. Profound anthracosis of lungs, with a small encapsulated abscess in the right base; obsolete tubercle of both. Heart dilated and fatty. Slight increase of pericardial fluid; a little liquid in both pleuræ. Other organs normal. The blood was mostly uncoagulated, and decidedly brighter in colour than normal. Dropped into water it gave a cherry-red solution instead of the usual yellowish tinge. It gave the tannin and alkali tests for carboxy-hæmoglobin. Examined with the spectroscope, after treatment with ammonium sulphide and warming, it gave the two persistent absorption bands characteristic of carboxy-hæmoglobin. Titrated by Haldane's colorimetric method, the percentage saturation with carbon monoxide was found to be 73 per cent.

Condition of Survivors.—The son (who slept in the same room as deceased) was found on admission to be pale, semi-collapsed, almost unable to walk. He felt cold (temp. normal), pulse 120. He did not complain of headache. The blood count yielded reds 4,800,000, whites 10,000, about 60 per cent. being polynuclear and the remainder lymphocytes. A specimen was tested for CO-Hgl. on the day after the occurrence with negative result. Nothing abnormal was noted in the urine.

The son-in-law's symptoms were in two respects the reverse of those just given. He had severe headache and slow pulse (about 48) on admission He was almost unable to walk. He had 6,000,000 reds and 8,700 whites, with 30 per cent. of mononuclear in his blood next day. CO-Hgl. not demonstrable.

The daughter recovered speedily, and refused admission to hospital.

Inspection of Premises.—Gas not laid on ; no fittings in house. Lower room 19 feet 4 inches long by 16 feet wide, and 9 feet high. Fire-place and small window. Upper room 18 feet by 15, with a sloping roof rising from 5 to 7½ feet above floor. Three windows nearly on floor level, each measuring 3 feet 2 inches by 2 feet 10 inches. There was no fire-place. There was a skylight 2 feet 1 inch by 1 foot 5 inches over the head of the stair, and far away from the bed. At the time of the occurrence all the windows were closed, but there was some doubt as to whether the skylight may not have been partly open. At the time of my visit some days afterwards it was fully open.

Explanation of the occurrence.—The premises on being entered smelt strongly of coal-gas. The occupiers of the adjoining house (detached)—a man, wife, and 6 children—complained of a similar smell, but suffered no ill-effects. The Gas Company's officials found the main gas-pipe broken about 18 inches below the macadamised surface of the street, just opposite the house. The fracture was of recent date, and probably caused by some heavy vehicle. The surrounding earth smelt strongly of gas, which must have found its way through the soil into the house. The sewers were examined and found staunch. It is interesting to note that, whereas the gas entered below, its effects were most severely felt in the upper room—a fact accounted for by the absence of a fire-place in the latter.

GROUP II., COMPRISING THREE CASES (ALL FATAL).

The accident befel a family consisting of a man, aged thirty-eight (mechanical engineer), his wife, aged twenty-six, and their child, aged five years, who were found dead in their cottage on the evening of the 7th of April, 1902. I was absent on the Continent at the time, and owe my knowledge of it to the courtesy of the City Coroner (Dr. L. A. Byrne).

At the inquest it appeared that the family were about as usual on the previous day. Several persons having called at the house during the morning and early afternoon of the 7th, and having failed to elicit any response from the inmates, the door was forced at 8 p.m. by the police, who were at once driven back by the overpowering odour of coal-gas. On effecting an entrance 15 minutes later, the man was found lying dead on the floor of the front room, attired only in a shirt, as though he had risen from bed and attempted to reach the door. The bed contained the bodies of his wife and child. All had been dead some hours.

Inspection of Premises.—The "penny-in-the-slot" meter which stood on a shelf in the living room had been disconnected and removed, and by means of two pieces of brass pipe and some flexible rubber tubing a direct connection had been set up between the gas main and the house supply. The pieces of brass pipe used for this purpose were of smaller bore than the gas-mains into which they were inserted, the joints being made staunch with red lead. Over the free ends of the brass pipes thus fixed the rubber tubing had been slipped, and the gas thus "short-circuited" into the house. Unfortunately for the inmates, the rubber tube had in some way become disconnected during the night, with the result that all three were asphyxiated.

Autopsy.—This was carried out next day in all three cases by Dr. H. C. Earl at the Coroner's request. The medical evidence describes the peculiar bright pink colour of the *post-mortem* staining, the bright cherry-red colour of the uncoagulated blood, and its characteristic behaviour to the usual chemical and spectroscopic tests. The cause of death was poisoning by carbon monoxide gas. This man was a mechanical engineer, and it is only too evident that his life and those of his wife and child were sacrificed in a clumsy attempt to defraud the Gas Company.

GROUP III., COMPRISING TWO CASES (BOTH FATAL).

The parties were a married couple, J. and G. M., who were suffocated in their bedroom at a Dublin Hotel on Jan. 15, 1903. They had arrived from the country on the previous evening and engaged the room, to which they subsequently retired. Next day nothing was seen of them, though it would appear that sounds of stertorous breathing were heard during the day in the narrow corridor into which the room opened. Towards evening the hotel people became alarmed and directed the porter to effect an entrance, which he did, through the window. Dr. Martin Dempsey was sent for. He pronounced the woman dead, and ordered that the man, who was lying unconscious beside her in bed, should be removed to hospital. He was admitted under the care of Dr. Thompson to Jervis-street, but never recovered consciousness, and died on the third day.

Autopsy on the female, G. M., aged fifty.—This was done by myself, with the assistance of Drs. Mason and Ryan, House Surgeons, next day. Body very obese; *rigor mortis* distinct; pupils normal; ulcer on left cornea; face, lips, and conjunctivæ slightly pink, with a tinge of blue; cherry-coloured spots on trunk; heart enlarged, much infiltrated with fat, the right side distended with blood, which was slightly, but undoubtedly, pinker than normal. Lungs deeply congested, especially at base; on section, decidedly cherry-red; pleuræ free from adhesions or petechiæ. No fluid in either, nor in pericardium. The stomach contained the remains of a full meal, and its cardiac end was partly self-digested. No odour of alcohol. Duodenum very dark in hue externally, its mucosa intensely injected, and presenting minute hæmorrhages, contents bile-stained, abundant, normal. Other abdominal organs normal. No fluid in peritoneum. The mucous membrane of the larynx and trachea was very bright pink, and coated with froth. Œsophagus full of gastric contents; brain normal. The blood was between 60 and 70 per cent. saturated with carbon monoxide.

The man, J. M., aged thirty-two, lived three days in Jervis-street Hospital. Despite inhalations of oxygen, he remained absolutely unconscious without corneal reflex, breathing stertorously; urine suppressed. The blood next day looked black and tarry. It contained 7,640,000 reds and 10,000 whites. The differential leucocyte count worked out approximately normal. The temperature, which was 101° on admission, rose to 102° next day, and on the third day reached 108°, when the patient died. The hyperpyrexia may, perhaps, be ascribed to injury of the heat regulating centre by de-oxygenated blood, but I have no anatomical proof of the accuracy of this surmise.

Autopsy.—A complete and careful inspection of the organs yielded nothing decidedly abnormal. The blood was partly coagulated, and did not yield a pink solution, nor did it give spectroscopic evidence of carboxy-hæmoglobin. The treatment with inhalations of oxygen had doubtless effected complete removal of the CO, but not until after irreparable damage had been done. I made a careful histological examination of the heart, liver, and kidneys, but failed to detect more than cloudy swelling, and (in the case of the kidneys) extreme congestion of the intertubular vessels. The brain has not yet been microscopically examined. From the other evidence, the results of the necropsy of the female, and the absence of any other cause, I considered that death was due to the results of inhaling carbon-monoxide gas, and the jury found accordingly.

Explanation of the occurrence:—When the room was entered it was in darkness, and smelt strongly of gas, which was escaping from a wall-bracket, the stop-cock of which was found to be half open. How this had come about was not fully cleared up at the inquest. Possibly the luckless couple, who had dwelt in the country, may not have been accustomed to gas, and had blown out the flame. There is another possibility. The corridor, on to which the room opened, was dark, and lighted by gas throughout the day. The supply to it and the adjoining rooms was governed by a special stop-cock, which would appear from the evidence to have been, at any rate occasionally, turned off at night, and turned on next morning. If this had occurred on the night in question, and had the couple left the gas lighted on retiring to rest, the occurrence would be most probably accounted for.

Inspection of premises:—The dimensions of the bedroom were 11 feet 1 inch long, by 10 feet 6 inches wide, and 9 feet 6 inches high, giving a cubic space of 1,105 feet from which had to be deducted the space occupied by a wardrobe 6 feet 7 high, 44 inches wide, and 19 inches deep; a large double bed, 6 feet 5 inches long, 44½ inches wide and 14 inches thick. There were also a large dressing-table, a wash-stand, a good-sized basket-chair, and two ordinary ones—in fact the little room may be said to have been crowded up with furniture. The cubic space thus occupied I calculated at 71 cubic feet, thus leaving only 1,034 cubic feet available for respiration. *There was no fire-place.* On the side opposite the door was a large window, which was closed, but not fastened, at the time of the occurrence. The only ventilation besides this was into a dark and close-smelling corridor, and was effected through two sets of apertures, one being a series of slits in a pane of muffed glass over the door. These were 18 in number, and arranged in 3 horizontal rows of 6 each. Each slit was 1¾ in. long, by about ⅛ inch wide, and their conjoint area I estimated at rather less than 6 square inches. Close to the floor, under the head of the bed, was a perforated zinc plate pierced with holes, the conjoint area of which, on a liberal estimate, I reckoned at 20 square inches, and their value must have been seriously diminished by their position close to the floor. They opened into the corridor. Assuming the admitted air to be cooler than that already in the room, its only effect would be to form on the floor a purer stratum, which could but slowly affect the composition of the general atmosphere of the room. The gas-bracket was an ordinary one, provided with a No. 5 braised fish-tail burner, consuming about 5 feet of gas per hour.

The fatal result was in this case due to several circumstances, of which the leading one was undoubtedly the escape of gas, whilst the defective ventilation of the apartment in which the luckless couple were suffered to remain shut up without food or attendance during an entire day was a contributory factor. On comparing the ventilation with recognised standards, we find the entire space to have been 517 feet per head instead of 1,000. The functional fresh air inlet was only 8 square inches, but allowing the same value for the perforated zinc plate under the bed we have 16 square inches instead of 48. Of course, air can enter through any crevice. Dr. Haldane has shown that the air of such a room is changed, even in the absence of a fire-place, about once every 2¼ hours. It would, therefore, be quite a mistake to suppose that the ventilation of a room, with, at any rate, one of its walls an outer one (that is, forming part of the outside of the house), is solely dependent on the ventilation apertures made *ad hoc*. Pettenkofer experimented many years ago with a room of about 3,000 cubic feet capacity, and found that without definite ventilation, the air was changed once every three or four hours. Dr. Haldane, in his appendix to the Gas Commission Report, concludes that the air of a closed room of 1,000 cubic feet capacity is changed once in from 2 to 3 hours.

It may be interesting to inquire what was the condition of the air of this particular bedroom, assuming that the air was completely changed once every 2¼ hours by perflation through the walls, and (for the sake of ease in calculation) that its cubic content was 1,000 (instead of 1,034 cubic feet). We shall also assume that the gas continued burning for 2 hours after the couple retired to the room (that is, till 12 o'clock) and then became extinguished. The problem may, therefore, be stated thus:–

A room has a capacity of 1,000 cubic feet, and the atmosphere is changed once every 2.25 hours. Its original composition may be assumed normal (790 vols. of N., 209.6 of O., and 0.4 of CO_2). CO_2 is introduced (*a*) by combustion of coal-gas, (*b*) by respiration. (*a*) only goes on for two hours (at the rate of 5 feet per hour), and delivers

2.5 cubic feet of CO_2 per hour (being at the rate of half-a-foot of CO_2 per foot of gas burnt; (*b*) continues all through the experiment, which lasts from 10 p.m. till 6 p.m. next day (20 hours), and delivers 1.2 cubic foot CO_2 per hour (0.7 per individual).

Coal-gas is delivered into the room during the last 18 hours of the experiment at the rate of 5 feet per hour. It contains 16 per cent. of carbon monoxide.

Required—(1) The maximal percentage of CO_2 that will be reached in the atmosphere.

(2) How long it will be before it will be reached.

(3) The maximal percentage of CO which will be reached during the experimental period.

(4) How long it will be before the maximal percentage is reached.

Assuming that the entering air is normal in composition, and that it at once and completely mingles with the air already in the room.

I have submitted this problem to a competent mathematical authority, who reports as follows:—The CO_2 introduced attains its maximum at the end of the first two hours, when it is 4.9 cubic feet. It then decreases during the 18 hours to practically 2.7 cubic feet. The change is more rapid at the beginning and very gradual towards the end. It is 3.51 cubic feet at the end of 2.25 hours, and 3 cubic feet at the end of 4.5 hours, so from this it changes very little.

As regards the coal-gas, the percentage goes on increasing all the time, tending towards the theoretical maximum, which would be 11.25 cubic feet, containing 1.8 cubic feet of CO. That 11.25 cubic feet is the maximum is shown by the fact that the wastage per hour would be $\frac{11.25}{2.25}$ or 5 cubic feet, which is balanced by what is delivered per hour. The maximum is never actually reached, but at the end of 18 hours the quantity of coal-gas present is 11.246, containing 1.799 of CO, which is for all practical purposes the same. The curves show the percentage of CO and CO_2 present at the stated intervals.[a]

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[a] The curves referred to are unavoidably withheld for the present.

The outcome of this little investigation is interesting, in so far as it shows that insensibility may occur with a proportion of CO decidedly below 2 per thousand—that fixed by Dr. Haldane as the limit of danger. The persons may be assumed to have been insensible at 9 a.m., when the quantity of CO in the room was 1.767. Furthermore, they died as the result of breathing for several hours air in which, theoretically at any rate, the proportion of CO never actually attained 1.8 parts per thousand. The explanation, of course, is easy. The CO was not equally distributed throughout the room. Dr. Haldane has shown that when gas is allowed to escape into a room the atmosphere becomes most unequally charged with it, more than twice as much being contained in some parts than in others. We may assume that this was the case here, and the practical outcome is that escapes of gas which are theoretically insufficient to render the air of a room poisonous may as a matter of fact be attended with fatal consequences.

GROUP IV.—COMPRISING CASE X. (FATAL).

The last case is of interest as illustrating the danger of badly constructed arrangements for the rapid heating of bath-water—what are known as Geysers.

On the night of March 30th, 1904, at about 9 o'clock, J. J. K., aged twenty-nine, pharmaceutical chemist, went to take a bath at his residence (Grand Canal-street Dispensary). About three quarters of an hour afterwards, the servant, whom he had sent out on an errand, returned, went up stairs, and on coming down again noticed a strong smell of gas on the lobby. Through the muffed glass door she saw the light in the bath-room, knocked, and getting no reply sent for the caretaker who burst open the door, when the body of the unfortunate young man was found lying just inside, between door and bath. The body was nude and wet. So overpowering was the atmosphere that the caretaker was almost overcome in the act of dragging the body out on to the lobby, when he applied artificial respiration, telephoning meanwhile for Dr. Herbert Byrne who, on arrival, pronounced life extinct.

Autopsy.—This was performed next day by myself and revealed no trace of disease in the body, which was that of a finely-developed young man. *Rigor mortis* extreme. Face and lips pale; *post-*

mortem staining of ear-tips and trunk, pink. Blood quite fluid, bright cherry-red. I was unable to detect much difference between a dilute solution of this blood and a similar one of normal blood (my own) shaken up with coal-gas to complete saturation. An accurate titration revealed the fact that the sample taken from the right auricle was 87 per cent. saturated, and that from the left auricle 87.7 per cent. saturated with carbon monoxide. I learn from Professor Lorrain Smith, who kindly did the titrations for me, that this is the highest percentage saturation as yet seen in the human subject. There remained only one-eighth of the subject's hæmoglobin available for oxygen carriage. The lungs were œdematous, and both they and the blood smelt strongly of coal-gas.

Inspection of the Premises.—A bath-room 7 feet by 7, with a sloping roof varying from 6 to 7½ feet high. Most of the available floor space was taken up by a full sized metal bath and a pedestal w.c. which stood beside the head end. At the other end was a chair. There was just enough space to stand comfortably between the door and the side of the bath. The upper half of the wide double doors was glazed with muffed glass. They fitted tightly. On the other side of the bath was a large "French" window, which was closed at the time of the occurrence. On the same side was an ordinary Sheringham valve. It was described as slightly open at the time of the occurrence. The geyser was placed over the foot end of the bath. It consisted of a metal heater of about two gallons capacity, into which water was led through a pipe connected with the supply to the bath. From the heater a brass tube ran out over the bath. Underneath, in a space partly surrounded by a japanned metal jacket, but open in front, stood a battery of six powerful Bunsen burners, which were supplied by a half-inch gas pipe, from which the supply to the wall-bracket was also derived. The heated air and products of combustion were carried up round the side of the boiler within an outer metal casing, which was contracted over the top of the boiler into a sort of funnel discharging them into the room. *There was no ventilation pipe.* A metal disc guarded the ceiling from being blackened by the products of combustion arising from the funnel, but there was no arrangement for safeguarding the life of the luckless person who might shut himself up in this nearly air-tight space of 343 cubic feet with six Bunsens capable of burning about 60 feet of gas, and therefore of consuming about 300 feet of air in a single hour!

There are various ways of accounting for the poisonous condition of the air in the bath-room :—

(1) One or more of the burners may have remained unlighted. All were on the same tap.

(2) They may have "struck back."

(3) By impinging on the cold metallic surface, the flames may have had their temperature so much lowered that combustion became imperfect, with liberation of CO.

(4) The oxygen of the air may have become so much consumed and so much charged with the products of combustion that the gas issuing from the burners was only partially consumed, with consequent liberation of carbon monoxide.

I will conclude by recalling the fact that whereas in 20 years there was no death from coal-gas poisoning in Dublin, there have been 10 cases, with 7 deaths, in the last three years, and by stating the cause which clearly accounts for this sudden appearance of a new danger in our midst. Since February, 1900, the Gas Company have been adding *carburetted water-gas* to their ordinary coal-gas. Water-gas is made by passing steam over red hot coke according to the equation—

$$C+H_2O=CO+H_2.$$

It is "carburetted" by charging it with the vapour of petroleum or other oils. It thus acquires illuminating power and a pungent odour, which all consumers of the Dublin gas must have remarked of late years. It is cheap, a good illuminant, and can be quickly produced in large quantity to meet emergencies. The drawback to its use is that it contains 30 per cent of carbon monoxide, and is, therefore, highly dangerous. From researches by Lorrain Smith, published in the Appendix to the Report of the Water-Gas Commission (1899), it appears that the poisonous character of coal-gas is entirely due to the carbon monoxide it contains. The proportion of carbon monoxide in ordinary coal-gas is 6 per cent. Air containing 2 vols. per thousand of carbon monoxide produces headache, giddiness, incapacity for muscular exertion, and other symptoms. When the amount rises to 4 vols. per thousand the result of breathing it is fatal. The mortality from accidentally breathing coal-gas mixed with air has been shown by Haldane to increase not merely directly with the percentage of CO in the air, nor even as the square of the increase, but actually as its *cube*. Thus, if the percentage of CO in coal-gas is doubled, the mortality becomes eight times what it previously was: if the CO is trebled the mortality becomes 27 times as great. This somewhat alarming fact has been deduced by Haldane (*loc. cit.*) from the statistics of the great American cities, many of which, such as Boston and Chicago, have been using almost pure water-gas since the introduction of its manufacture some 12 or 14 years ago. The Dublin gas, which, up to February, 1900, contained no more than the normal 6 per cent. of CO had its proportion of that substance raised during the month mentioned to about 16 per cent., and as recent analyses, kindly carried out for me by Mr. Holmes Pollok, B.Sc., of the Royal College of Science, have shown, it still remains.at that figure. The practical inferences would appear to be:—

(1) That notice ought to be given by gas producers ot their intention to increase the percentage of carbon monoxide, and that they ought to keep a record and furnish it at regular intervals to the sanitary authority stating the percentage present each day.

(2) That the legislature ought to impose some restriction on the percentage of water-gas supplied with coal-gas to consumers, so as to keep the CO within reasonable bounds.

(3) That the sanitary authority ought to have power to inspect gas-fittings, especially those of gas-cookers, geysers, and the like, and also to prohibit the laying-on of gas to bedrooms under 1,000 feet capacity and without a chimney. Faulty fittings and unventilated geysers might be treated as nuisances under section 107 of the Public Health Act.

(4) That the laying of gas-mains should be very carefully done in towns where carburetted water-gas is used, so as to avoid danger from accidental breakage of the pipes.

In writing the above I have no desire to excite alarm. I have thought it well to lay before the profession the special experience I have had of this form of fatality, and I desire at the same time to draw their attention to the fact that obscure and otherwise inexplicable cases of ill-defined character may sometimes be accounted for by the existence of a slight leakage of coal-gas as at present supplied.

SLEEPING SICKNESS IN UGANDA.

Lieut.-Col. David Bruce, R.A.M.C., F.R.S., Dr. David Nabarro, and Captain E. D. W. Greig, I.M.S., were sent out to Uganda by the Royal Society and the Indian Government, for the purpose of continuing the investigation of sleeping sickness begun by Drs. Low, Castellani, and Christy in 1902. The report of the first-named investigators has been published recently. The report brings forward evidence to show (1) that sleeping sickness is caused by the entrance into the blood and cerebro-spinal fluid of a species of trypanosoma; (2) that this species is probably that discovered by Forde and described by Dutton from the West Coast of Africa, and called by him *Trypanosoma gambiense*; (3) that the so-called cases of trypanosoma fever, described from the West Coast, may be, and probably are, cases of sleeping sickness in the earliest stages; (4) that monkeys are susceptible to sleeping sickness, and show the same symptoms and run the same course, whether the trypanosomes injected are derived from cases of so-called trypanosoma fever, or from the cerebro-spinal fluid of cases of sleeping sickness; (5) that dogs and rats are partially susceptible, but that guinea-pigs, donkeys, oxen, goats, and sheep, up to the present, have shown themselves absolutely refractory; (6) that the trypanosomes are transmitted from the sick to the healthy by a species of tsetse-fly, *Glossina palpalis*, and by it alone; (7) that the distribution of sleeping sickness and Glossina palpalis correspond; (8) that sleeping sickness is, in short, a human tsetse-fly disease. As is known, Dr. Castellani was the first to find trypanosomes in the cerebro-spinal fluid of cases of sleeping sickness, due to his introduction of the method of centrifuging the cerebro-spinal fluid in his search for his streptococcus. This method at once put the latest investigators on the right track, and led to the rapid and easy elucidation of this hitherto mysterious disease.—*Medical Record*, N.Y., April 2, 1904.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug-giving, useful for the Prevention of Diseases and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D.; Physician to the Jefferson Medical College Hospital, and to the Philadelphia, Jewish, and Rush Hospitals, &c. Volume VII. Mechanotherapy and Physical Education, including Massage and Exercise, by JOHN R. MITCHELL, M.D., Fellow of the College of Physicians of Philadelphia; Physician to the Orthopædic Hospital and Infirmary for Nervous Diseases, &c. And Physical Education by Muscular Exercise, by LUTHER HALSEY GULICK, M.D.; Director of Physical Training in the Public Schools of Greater New York, &c. With special chapters on Orthopædic Apparatus, by JAMES K. YOUNG, M.D.; Professor of Orthopædic Surgery in the Philadelphia Polyclinic, &c.; on Corrective Manipulation in Orthopædic Surgery (including the "Lorenz Method"), by H. AUGUSTUS WILSON, M.D.; Clinical Professor of Orthopædic Surgery in Jefferson Medical College, &c.; and on Physical Methods in Ophthalmic Therapeutics, by WALTER L. PYLE, M.D.; Assistant Surgeon to Wills Eye Hospital, Philadelphia. With 200 Illustrations. London: Rebman, Limited. 1904.

THIS excellent series continues to maintain the high standard of its individual items. Embodying, as does this "System of Physiologic Therapeutics," the most advanced (and advancing) opinions and facts of the New World, in one of the most interesting and most important departments of human inquiry, its contents should surely attract the fullest attention of all medical men on this side of the Atlantic. The great object of every true lover of our profession should be continuous acquirement and improvement in all the manifold departments of human knowledge. We say *all* advisedly, for we firmly maintain that there is no domain of human investigation or opinion, from the gleanings of which the true representative of the healing art may not enrich his garner. It is hardly necessary to add, after these preliminary remarks, that we recommend the volume before us to the perusal of all our readers. But apart from the consideration due to it as a representative document placed before the world by a representative group of thinkers, in the great country which claims to be the special representative of human progress in the twentieth (as it had been in the nineteenth) century, the work before us has many general and special recommendations of its own. As we are told in the preface, the main theme is, of course, that treated by Dr. Mitchell, but there are important collateral items which are made to undergo luminary investigation and treatment. A gracious tribute is paid to the brilliant Philadelphia physician—Dr. Weir Mitchell—for the great service which he rendered to mankind in the recognition of the importance of eye-strain in the production and aggravation of nervous and other disorders. Also to his successors in this department of clinical research, and "in special to George M. Gould for clear perception of the important place of ocular disturbances in medical diagnosis and the reiterated teaching needed to make this knowledge an integral part of the general professional consciousness." The justice of this testimony must be echoed by every observant practitioner of the twentieth century. And, as the writer very justly observes:—"It seems appropriate, therefore, that a treatise like the present, emanating from Philadelphia, should give this subject its deserved prominence, probably for the first time in general therapeutic literature." In order to avoid extremes, however, the editor has, judiciously, had the chapter on "Physical Methods in Ocular Therapeutics" prepared by Dr. Pyle, who treats the subject with an impartial conservatism, while fully recognising the importance of the views maintained by his brilliant master.

The whole of the fertile subjects of Massage and Physical Manipulation are, indeed, treated in this volume with a degree of lucidity which affords one of the best examples we have met with of the style and modes of thought of our trans-Atlantic *confrères.* We cordially recommend the volume to the careful attention of all our readers.

A Text-book on Diseases of Women. By BARTON COOKE HIRST, M.D.; Professor of Gynæcology in the University of Pennsylvania; Gynæcologist to the Howard, the Orthopædic, and the Philadelphia Hospitals. London and New York: Saunders & Co. 1903. Pp. 683. With 655 Illustrations, many of them in colours.

PROFESSOR HIRST'S Text-book of Obstetrics is so well-known and so highly appreciated that we are certain a warm greeting awaits his new work. The two books have been written on very similar lines, and are a decided addition to the medical library. In the volume before us, a special effort has been made to describe the palliative treatment of diseases of women and such curative treatment as can be carried out by the general physician, in addition to a full description of the various operative procedures.

In discussing the various gynæcological diseases, Dr. Hirst enters into his subject with admirable fulness, and consequently the book is a good reference volume. As a rule, his language is simple, and his meaning can readily be followed, but in places the fascination of words appears to overcome him, and a veritable museum of terms results. Thus on page 506 we read:—" The pelvic connective tissue may be divided into -the connective tissue investiture of the pelvic viscera under the serosa, the parametrium, paracolpium, paracystium, paraproctium, analogous to the subcutaneous connective tissue, but sending out extensions in ligamentous form reinforced by muscular tissue, as the cardinal ligaments of the uterus, in the bases of the broad ligaments supporting the cervix and vaginal vaults, the utero-sacral ligaments, from the parametrium around the lateral aspects of the cervix to the paraproctium, the utero-vesical ligaments from the parametrium to the retrosymphyseal connective tissue." Here we have 26 substantives and 9 adjectives grouped under the control of a single verb. Such instances are, however, of extreme rarity, and, as we have said, the diction is on the whole good.

The illustrations are of a high order of excellence. We were particularly pleased with the diagrams representing the different methods of securing the blood-vessels of the broad ligament and the treatment of the uterine stump left after partial hysterectomy.

Blood-pressure in Surgery. An Experimental and Clinical Research. The Cartwright Prize Essay for 1903. By GEORGE W. CRILE, A.M., M.D.; Professor of Clinical Surgery, Western Reserve Medical College; Visiting Surgeon to St. Alexis Hospital; Associate to Lakeside Hospital, Cleveland. Philadelphia and London: J. B. Lippincott Company. 1903. Pp. 422.

THE volume before us consists of an experimental and clinical research into the causes of low blood-pressure in surgical cases with the object of determining the best methods of treatment to be adopted in such conditions, for which work the author was awarded the Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons, New York City.

The first 260 pages are devoted to the details of the experiments, after which follows a summary of the experimental data. It is to this latter the practical surgeon will turn with most interest, and we think his perusal of it will cause him no little astonishment. The sheet-anchor to which most, if indeed not all, surgeons resorted for the treatment of shock was strychnin. What, then, will be his feelings when he reads that "In any degree of shock, after the administration of a therapeutic dose of strychnine, the animals passed into deeper-shock"? The two methods of treating shock which were found to be of most value that every surgeon can employ are those of intravenous saline infusion and the administration of adrenalin chloride. In every observation upon animals in shock, saline infusion caused a rise in the blood-pressure. The rise was usually gradual, and the rise was sustained proportional to the degree of shock. In the cases in which shock was so deep that stimulating the sciatic nerve, burning the paw, and administering physiologic doses of strychnin caused no rise in the pressure, the rise on infusing saline solution was not so marked or so well sustained. In cases of the deepest shock the rise in the blood-pressure was not sustained beyond a certain time, even during the infusion.

"In the normal animal, in every degree of shock and collapse, when the medulla was cocaïnised, when in addition the spinal cord was cocaïnised, when the cord was severed, and when in addition the medulla was destroyed, when the splanchnic nerves were severed, when the heart, the respiration, and the vasomotor action were arrested by 2,300 volts of an alternating current, when the animal was decapitated, and when it was apparently dead as long as 15 minutes, adrenalin administered intravenously caused a rise in the blood-pressure." The blood-pressure in all these conditions could be raised even higher than normal.

Clinically, it was given continuously for eight hours in a patient dying of shock.

By the combined effect of artificial respiration, rhythmic pressure upon the thorax over the heart, and intravenous infusion of adrenalin in normal salt solution, a human heart which had stopped beating for nine minutes was made to beat for thirty-two minutes. Morphin, alone or combined with ether, prevents, to a considerable degree, the animal's susceptibility to shock.

The results of atmospheric pressure upon the circulation are also summarised.

Animals reduced to profound shock and placed in an atmosphere of increased pressure lived longer than the controls. The outcome of this was the application of a pneumatic rubber suit which, when inflated, exerts a uniform pressure upon the surface constituting an artificial peripheral resistance. It is so constructed that one or more limbs or the abdomen may separately or in any combination be subjected to pressure by inflation by means of a bicycle pump. The air valves are so adjusted that the rate of decompression may be completely controlled.

The work is a very valuable contribution to surgery, and taken with the author's other contributions to "Shock," and the "Problems relating to Surgical Operations," deserves the commendations of the surgical profession.

The Extra Pharmacopœia of Martindale and Westcott. Revised by W. HARRISON MARTINDALE, Ph.D., F.C.S., and W. WYNN WESTCOTT, M.B. Lond., D.P.H., H.M.'s Coroner for North-East London. Eleventh Edition. London: H. K. Lewis. 1904. Med. 24mo. Pp. xxiv + 809.

THE preface to the eleventh edition of this indispensable work opens in a minor key with a reference to the lamented death of William Martindale, the originator of the "Extra Pharmacopœia." The revision of the new edition has been carried out by his son, Dr. William Harrison Martindale, Ph.D., and Dr. Wm. Wynn Westcott, who was his coadjutor in the work from its commencement in 1883.

Excision has been practised to some extent, and many of the older drugs, chemicals and preparations have been omitted. A list of these will be found at page x. But, on the other hand, more than three hundred new remedies, drugs and preparations now find a place in the volume, which contains 112 more pages than were in the tenth edition. The use of a finer paper has led to a reduction in the size and weight of the book, notwithstanding the large increase in the number of pages.

Among important additions we may mention a new section on surgical dressings and apparatus (pages 627-639), and a section on "Radiology" (pages 444-461), in which full information is given on the subject of radium, and on the application to Therapeutics of the Röntgen-rays, high frequency currents, the Finsen lamp, and radiant heat. The sections on "Antitoxins and Organotherapy" have been almost entirely re-written. The mass of pharmaceutical research work has been carefully abstracted, and the results obtained by British and foreign chemists have been recorded. The section termed Analytical Memoranda has been improved in several respects, notably by the addition of Gerrard's useful method of estimating the amount of sugar in urine, and in relation to the notes on blood-testing and staining. The bacteriological notes have been corrected to date, and they are preceded by a full account of the scientific examination of stomach contents (pages 613-616). The notes on "Water Analysis" (pages 609-611) have been revised to meet the now prevailing method of reporting in parts per million. An important account of the tests for carbonic monoxide and dioxide will be found at page 611, the recent occurrence of frequent deaths from carbon monoxide poisoning having made it necessary to mention the methods of detecting this deadly gas, as well as the analysis of ordinary illuminating coal-gas, and the estimation of carbon dioxide in the atmosphere.

The General Index has been increased by about 1,500 titles, while the Therapeutic Index has been revised and re-arranged. In the latter internal remedies are now printed in roman type, whereas those intended for local or external use are in italics. The list of poisons and their antidotes in this index has also been enlarged.

Among the fresh "monographs" we find sections or paragraphs on "Collapsubes," "Sterules," "Solubes," and "Vescettes"—words which, however expressive, do not enrich the English language—that long-suffering tongue of a dominant race.

Once more we venture to assert that the "Extra Pharmacopœia of Martindale and Westcott" is a work which no medical practitioner can afford to be without in his daily rounds or in his consulting room.

L'Origine du Diabète et ses Rapports avec les États morbides des Glandes vasculaires sanguines. Par M. LE DR. A. LORAND. Paris: C. Naud. 1904. Pp. 83.

IN this *brochure* Dr. Lorand maintains that there is a very close connection between diabetes and those diseases which are admittedly due to an abnormal function of the blood vascular glands, more particularly exophthalmic goître and acromegaly. The relationship of the pancreas with diabetes is not through the secreting portion, but by means of the islands of Langerhans, which constitute a blood vascular gland closely related to the others, notably the thyroid gland and anterior lobe of the pituitary body. He shows that diabetes can be produced by continued injections of thyroid extracts, and that the disease frequently occurs in conditions of hyperactivity of the thyroid gland. On the other hand, diabetes is rare when the thyroid gland is inactive, and the absence of thirst and the other symptoms observed in myxœdema are all opposed to those which present themselves in diabetes. Arguing from these facts, attempts have been made, apparently with some success, to treat diabetic patients with the serum or milk of animals (goats) whose thyroid glands have been removed. The records of several cases so treated are given, and the author speaks hopefully of the method, and thinks that even better results may be expected from a treatment by pancreatic extract combined with anti-thyroid medication.

It would be impossible to follow the writer through all the steps of his reasoning. His arguments are forcibly put and ingenious, but do not appeal to our mind as always absolutely conclusive. His work, however, is well worth reading.

Notes on the Composition of Scientific Papers. By T. CLIFFORD ALLBUTT, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A.; Regius Professor of Physic in the University of Cambridge; Fellow of Gonville and Caius College; Hon. Fellow, Royal College of Physicians of Ireland. London: Macmillan & Co. 1904. Cr. 8vo. Pp. x+154.

THIS is one of these books which helps to vindicate the fast-expiring claim of Medicine to be considered a "learned profession." In making this statement it is not our desire or intention to charge medical men with ignorance of their profession—far otherwise. But what we do say is that our professional brethren are too apt in the present age to limit their reading and study to Medicine—to their own great loss and to the disadvantage of their profession.

Not so the learned Regius Professor of Physic in the University of Cambridge, to whose pen we are indebted for this fascinating "Study of English Grammar and Composition," as it might well be called. The book reminds us of Archbishop Trench's "Study of English Words," to which, indeed, it is in many respects a complement.

In his preface Dr. Clifford Allbutt tells how this book came to be written. "In the course of the year," he says, "I peruse sixty or seventy theses for the degree of M.B., and about twenty-five for the degree of M.D. The matter of these theses is good, it is often excellent; in composition a few are good, but the greater number are written badly, some very ill indeed. The prevailing defect of their composition is not mere inelegance; were it so, it were unworthy of educated men: it is such as to obscure, to perplex, and even to hide or to travesty the sense itself." And so these hints or "Notes on the Composition of Scientific Papers" were put together.

We have read this book from beginning to end with interest and pleasure. Its pages abound with information and wholesome criticism. In them, on the other hand, there is little to criticise. At page 42, however, we come across a strange astronomical heresy. Our author writes: "For him who has read Newman thoughtfully, his symmetry and subtlety are diminished by the defective illumination of his mind, which was as that of the moon, *shining on one side, on the other dark for ever.*" It is true that the moon always presents the same face to the earth, but of course both sides of the moon receive the sun's rays in the course of a lunar month, or the time in which our satellite completes her circum-terrestrial orbit. Dr. Clifford Allbutt will forgive us for suggesting that the plural of "sanatorium," which is not a classical Latin word, should be "sanatoriums," not "sanatoria," as the word appears at page 96. To do him justice, the word is not his own, but forms part of a quotation.

In concluding his interesting book, Dr. Allbutt says:—"Let the student read by all means, and read widely, not to imitate individual form, but to store his mind with ideas of thought and imagination, and with words in all their variety and significance. Let him converse with great authors, in poetry as well as in prose; for poetry is literature at its highest and strongest; and almost all poets—I say 'almost' to avoid contention—have written fine prose. Let him train his mind also to think and imagine continuously without fatigue, as he trains his body to endurance."

Social Diseases and Marriage: Social Prophylaxis. By PRINCE A. MORROW, A.M., M.D.; Emeritus Professor of Genito-Urinary Diseases in the University and Bellevue Hospital Medical College, New York; Surgeon to the City Hospital; Consulting Dermatologist to St. Vincent's Hospital, &c. London: Sidney Appleton. 1904. Pp. 390.

IN this extremely handsome octavo volume the author gives us the fruits of his advice and opinions—based upon a ripe experience—on some of the most important social questions of twentieth century life. As he very truly says in the opening sentences of his preface:—"Of all the problems of social hygiene, one of the most important—certainly the most difficult and delicate—is that of the prophylaxis of a class of diseases which, in their essential nature, are most intimately blended with the sources of human life. Venereal diseases, in their mode of origin and pathological effects, strike at the very root of nature's process for the perpetuation of the race." And as he elsewhere observes, with corresponding clear-sighted and philosophic comprehension of the outlook:—"The situations created by the introduction of venereal diseases in marriage are many and complicated; the problems presented are delicate, perplexing, and difficult of solution. In dealing with these situations there is required not only a thorough knowledge of these diseases in all their relations, but also a knowledge of human nature, a professional sagacity and a *savoir-faire* which are not taught in the curriculum of our medical schools."

We have surely arrived at a period in which the general distribution of knowledge and intelligence makes it feasible, as it has always been desirable, that every intelligent member of the public should be made acquainted with the dangers of the communication of venereal diseases by marital cohabitation, as medical men have always been with the horrors of its consequences. The transmission of some of the most loathsome, while undeniably ranked among the most preventable, of all the physical ailments of humanity, to a confiding spouse and an unsinning offspring, is surely one of the gruesome incidents of life which should soon be relegated to a place in the melancholy annals of a former era of imperfect civilisation, in which erring humanity was left far too much to the guidance of instinct and of chance. For the author's proposed methods and means of attaining this desirable consummation we refer our readers to the volume itself, which we heartily recommend to their careful scrutiny. Accordingly, we will conclude this notice by expressing our strongest sympathy with the author's feelings as expressed in the closing sentence of his work:—"Upon humanitarian principles, in the interest of virtuous wives, who should no longer be poisoned with foul infections; in the interest of children, who should no longer be deprived of their rightful heritage of vitality and vigor; in the interest of the race, which should no longer be decimated and deteriorated, the dreadful curse of venereal disease should be lifted from the marriage relation."

Transactions of the Clinical Society of London. Volume XXXVI. London: Longmans, Green & Co. 1903. Pp. 285.

This volume opens with a paper by Dr. Francis, of Brisbane, in which he endeavours to prove that the great majority of asthmatics may be relieved by cauterising the nasal mucous membrane. He supports his view by notes of 402 cases which he has treated, in only 14 of which no relief followed. Abdominal surgery is well represented by Dr. Mansell Moullin, who writes on Gastrotomy for Recent Gastric Ulcer (in which he records some excellent results of operation for hæmorrhage); by Drs. Waring, Roughton, and Boulby on Operation for Perforation in Typhoid Fever; and by Mr. Makins (who describes some cases of gangrenous intestine in strangulated hernia, which he treated by invagination and stitching over of the sound bowel. Dr. Brook relates a remarkable case of complete paraplegia due to caries of the spine, which, after operative removal of all the tubercular matter which was pressing on the cord, recovered completely.

We note that there are now 608 members of the Society, which is evidently in a most flourishing condition.

Transactions of the Association of American Physicians. Eighteenth Session, held at Washington, D.C., May, 1903.

THESE valuable Transactions seem to increase in size year by year, but their scientific value is fully maintained. In the present volume there is found evidence of much original work of a high order of merit; many of the papers are not merely records of cases, but an account of valuable experimental investigations.

Several papers relate to Tuberculosis. Dr. Kober contributes an elaborate paper on the Transmission of Bovine Tuberculosis by Milk, in which he strongly maintains the danger human beings incur from milk. Dr. Trudeau relates some interesting experiments in producing artificial immunity to tuberculosis by injecting weak cultures of bacilli. In a long paper Dr. Theobald Smith gives reasons for believing that there is a human and a bovine type of tubercle bacilli.

Several interesting papers relate to Alcohol. Dr. Hare concludes that the use of alcohol seems to have the power of combating infectious diseases by increasing the bacteria-destroying power of the blood. Dr. Cabot, in an elaborate paper, comes to the conclusion that alcohol has little, if any, influence on the circulating organs.

There are many other papers of importance, a good many of which are excellently illustrated. We congratulate the Association on its energy and success, as evidenced by the volume before us.

What we owe to Experiments on Animals. By STEPHEN PAGET. London: The Scientific Press. 1904. Pp. 72.

The Case against Anti-vivisection. By STEPHEN PAGET. London: The Scientific Press. 1904. Pp. 104.

WE hope, and believe, that there are few of our readers so ill acquainted with the sources from which their knowledge comes as not to recognise the debt which every practitioner owes to experiments made on living animals, and not to feel sure that if such experiments were discontinued the progress of the healing art would be checked more than it could be by almost any other obstruction.

It is now very generally known that not only are the advocates of anti-vivisection mistaken in their views, but that the methods they adopt to further these views are not always those of fair fighting or legitimate argument; that they garble facts, suppress important matters, and often make statements which they know, or might easily learn to know, are false. Every one has, we suppose, the right to shut his eyes to the truth, and to hold what opinions he likes, but no one has a right to attempt to propagate his opinions by such methods as those which have too often been, and are still, employed by a large number of anti-vivisectionist writers.

If there is anyone who has not looked into this matter for himself, and who wishes to know what medicine and surgery have gained from vivisection, and the arguments for and against this method of research, he cannot do better than read Mr. Stephen Paget's two works—"What we owe to Experiments on Animals" and "The Case against Anti-vivisection."

The facts stated in the former work have already been set forth at greater length by Mr. Paget in a book called "Experiments on Animals," of which a new and revised edition was published in 1903 by Mr. John Murray, of London. A short summary of these facts is now given in very plain words by Mr. Paget, and the book will be useful to anybody who wishes to know what has been gained by the help of experiments on animals in the several domains of physiology, pathology, and practice.

In the latter work the reader will find exposed the methods adopted by the Anti-vivisection Societies, the character of their literature and arguments, and will be furnished with material which will enable him to speak with the enemy in the gate; he will know the nature of the opposition which he has to encounter, and will be prepared to meet it successfully. What the end of the struggle will be cannot for a moment be doubtful to any instructed mind. In the long run truth must prevail over error, enlightenment over obscurantism. The works before us will undoubtedly have a powerful effect in still further discrediting an already greatly discredited cause.

A Text-book of the Practice of Medicine. By JAMES M. ANDERS, M.D.; Professor of Medicine at the Medico-Chirurgical College, and Physician to the Medico-Chirurgical Hospital, Philadelphia. Sixth Edition, thoroughly revised. Philadelphia: W. B. Saunders. 1903. Pp. 1295.

THIS work has proved a great success and has enjoyed much popularity, as evidenced by the fact that a new edition has been called for every year since 1897, when the book was first published. Under these circumstances there is little, if any, occasion for criticism. We must only call attention to some of the special features of this sixth edition.

Paratyphoid fever is mentioned, the view held being that it is not a single disease, but a group of fevers caused by different microbes. The so-called "Fourth Disease" is alluded to, but little is written concerning it. We are reminded that the poisons both of measles and of scarlatina may act simultaneously in a patient. Trypanosomiasis and the symptoms caused thereby, including sleeping sickness, are described.

In these and other respects the work has been kept well abreast of the advance of medical science. It will be found a useful and reliable work on medicine.

Uric Acid: An Epitome of the Subject. By ALEXANDER HAIG, M.A., M.D. Oxon., F.R.C.P.; Physician to the Metropolitan Hospital, and the Royal Hospital for Children and Women; author of "Uric Acid as a Factor in the Causation of Disease," and of "Diet and Food in Relation to Strength and Power of Endurance, Training, and Athletics." London: J. & A. Churchill. 1904. 8vo. Pp. viii+158.

DR. HAIG has for many years studied his subject with great diligence, so that he is necessarily in possession of very numerous and very important data. He here tells us that he began in 1882 to investigate the periodic headache from which he had suffered all his life, and from which he had up to that date entirely failed to obtain any relief. He then soon found that, as he diminished the use of animal flesh, "he suffered less frequently and less severely." He afterwards found that the headaches were accompanied by the presence of a large quantity of uric acid in the renal secretion. Proceeding further in the same direction, he ascertained that "when a headache was going on, together with a large excretion of uric acid in the urine, it was only necessary to administer a small dose of a mineral acid to diminish the excretion of uric acid in the urine and to clear up the headache, with all its concomitant symptoms, while with this clearing up and accompanying diminution of uric acid in the urine there very often appeared a fresh symptom--namely, a certain amount of pricking and shooting pain in some of the joints and fibrous tissues of the body. . . . I soon found out that by the administration of solvents of uric acid, on the one hand, or precipitants of uric acid on the other, I could make the excretion of the uric acid in the urine from day to day, or from hour to hour, exactly what I pleased, and that in altering this excretion I altered all the symptoms which had been found in relation to it."

Having thus discovered the means of dissolving or precipitating at will the uric acid of the fluids of the body, Dr. Haig came to regard himself as master of the situation. The precipitation being, in the nature of things, in the direction of the articulations, the uric acid could be conveniently "side-tracked" along that meridian of the sphere of the human economy; to be afterwards drafted at leisure towards the channels of renal excretion.

Dr. Haig has studied his subject very earnestly and very thoroughly, and his views justly demand the fullest and most earnest attention from every medical practitioner. We suspect that his unfavourable views of the value of animal food will elicit a very strong antagonism, especially in presence of the existing outcry regarding the physical degeneration of the British people. But his facts are based upon observation and experiment—obviously conducted with anxious care; and his arguments are logical and based upon scientific data. We believe that there is a more solid foundation for his views than the average Anglo-Saxon, gifted with his characteristic congenital—we may add proverbial—aldermanic views on the nature and destiny of diet, will be willingly disposed to admit. Accordingly, we recommend this carefully thought-out volume to the best attenion of our readers.

Mémoires Couronnés et Autres Mémoires publiés par l'Académie Royale de Médecine de Belgique. Collection in 8°. Tome XVI. Bruxelles: Hayez, Imprimeur de l'Académie Royale de Médecine de Belgique. 1904. —*Histoire de l'Académie Royale de Médecine de Belgique* (1841-1902). Par les DOCTEURS LOUIS GALLEZ, Membre Titulaire; et LÉON GALLEZ, Correspondant. 1er Volume. Bruxelles: Hayez, Imprimeur de l'Académie Royale de Médecine de Belgique. 1903. 8vo. Pp. 575.

THE formation of the Belgian Royal Academy of Medicine may be said to be simultaneous with the origin of the progressive (experimental, sceptical, and materialistic) movements and methods in medicine and the collateral sciences, which successfully emancipated these from the shackles of an "authority" founded upon venerable ignorance and propped by unreasoning prejudice. Accordingly, the present work will form an important contribution to the printed annals of scientific advancement; more especially as the record of the scientific body with which it deals is one of special enlightenment and activity. Its members have included some of the most original thinkers in Medicine and Surgery during the past sixty years; and the list of honorary members and correspondents—native and foreign—includes every name of note connected with the theory and the practice of the healing art during the same—the most progressive and enlightened—period of its history. Accordingly, this volume has been made a really valuable work of reference by the insertion of a series of short biographies of the owners of all these honoured names.

A Manual of Ambulance. By J. SCOTT RIDDELL, C.M., M.B., M.A.; Senior Surgeon and Lecturer on Clinical Surgery, Adelaide Royal Infirmary; Examiner in Clinical Surgery, University of Edinburgh; Honorary Associate of the Order of the Hospital of St. John of Jerusalem in England; Examiner to the St. Andrew's Ambulance Association, Glasgow, and the St. John's Ambulance Association, London. Fifth Edition. Thoroughly revised and enlarged. With Frontispiece, 20 new full-page Figures, and 156 Illustrations in the Text. London: Charles Griffin & Company, Ltd. 1904. Pp. xvi + 227.

THE position of a volume like that before us, which has reached its fifth edition in an exceptionally short period of time, is too well established to have much to either hope or fear from the efforts of the reviewer, so that we will merely observe that the present issue presents very substantial additions and improvements upon its predecessors; that it is brought thoroughly up to date on its own special lines, and—especially for the benefit of those who have not yet seen the volume—that it is beautifully printed and copiously illustrated, so that the whole does credit alike to author and publishers.

Functional Diagnosis of Kidney Disease, with Special Reference to Renal Surgery. By LEOPOLD CASPER (Privatdocent an der Universität), and DR. PAUL FRIEDERICH RĬCHTER (Assistent der III. med. Klinik), Berlin. Translated by DR. ROBERT C. BRYAN, Adjunct Professor of Genito-Urinary Diseases, University Medical College, Richmond, Va.; and DR. HENRY L. SANFORD, Resident Surgeon, Lakeside Hospital, Cleveland. London: Rebman, Limited. 1903. Pp. 233.

THE translation of the work of Drs. Casper and Rĭchter is most opportune. The subject with which it deals is highly interesting to the surgeon, while for the patient it is one of vast importance. To place the practical diagnosis of kidney diseases on a sound basis is a most desirable object if renal surgery is to benefit. Nothing can be more important both to the surgeon and to the patient—to the latter, indeed, it is a question of life or death—than to be able to determine the functional power of each kidney. The contents of this little volume before us are divided into four chapters.

Chapter I. is devoted to a consideration of the problems of functional diagnosis in general.

Chapter II. treats of the importance of functional kidney diagnosis in surgery. In this chapter the various methods of examination are described and their respective values discussed.

Chapter III. is one of the most important. In it will be found described—I, The method of determination of renal sufficiency in general, a subject discussed under the headings of (*a*) the elimination of nitrogen in kidney patients; (*b*) the elimination of chlorides; (*c*) the determination of the molecular concentration of the urine (cryoscopy); (*d*) the elimination of artificially introduced substances (methylene blue); (*e*) the chemical activity of the kidneys;

(*f*) the toxicity of the urine; (*g*) the determination of the molecular concentration of the blood; and—II. The determination of the function of each kidney, which is discussed under the following headings:—(*a*) The concentration of the secretion of the kidneys collected simultaneously and separately; (*b*) the elimination of nitrogen by each kidney; (*c*) the determination of the molecular concentration of each kidney; (*d*) the methylene blue test; (*e*) the phloridzine method. The last chapter gives the results of the authors' investigations and their conclusions. The book fills a want long desired, and we most strongly recommend its careful study to every operating surgeon.

The Sanatorium Treatment of Consumption. By T. N. Kelynack, M.D., M.R.C.P.; Physician to the Mount Vernon Hospital for Diseases of the Chest, Hampstead and Northwood, London; Author of "The Selection of Consumptive Cases for Sanatorium Treatment," "Pathology of the Vermiform Appendix," "Renal Growths," "Pathologist's Handbook," &c. (Reprinted from *The Hospital.*) London: The Scientific Press, Ltd. 1904. Pp. 27.

Dr. Kelynack's recent tour of inspection of the sanatoriums of the United Kingdom has afforded him material for the production of this little *brochure*, which contains the substance of a lecture delivered in connection with the winter course of Post-Graduate Lectures at the Central Out-patient Department of Mount Vernon Hospital, Fitzroy-square, W.

Tracing the evolution of the sanatorium from the days of George Bodington and Henry MacCormac to its recent developments under the influence of Continental teaching, he pleads that the time has now come when a slavish imitation of German procedure, so much of which is unsuited to the character of most British patients, is likely to hamper rather than to hasten progress in this country. He regrets that so few sanatoriums publish anything worthy of being designated scientific, original research, while so many questions call for answer—*e.g.*, those concerning the conditions of the blood in phthisical cases, and the amazingly divergent views which prevail regarding the all-important question of feeding.

While admitting that sanatoriums have accomplished much and probably will in future accomplish more, it is recognised that the ultimate goal must be prevention.

Dr. Kelynack has succeeded in covering a wide field in very few pages, and his paper is readable and instructive.

Manual of Surgery. By ALEXIS THOMSON, M.D., F.R.C.S. Ed., Assistant Surgeon Edinburgh Royal Infirmary, Surgeon to the Deaconess Hospital, Edinburgh; and ALEXANDER MILES, M.D., F.R.C.S. Ed., Assistant Surgeon Edinburgh Royal Infirmary, Surgeon to Leith Hospital. Volume First. General Surgery. Illustrated with 262 wood engravings. Edinburgh and London: Young J. Pentland. 1904. Pp. 763.

THE volume before us is devoted to general surgery and is so arranged as to facilitate clinical study. It well embodies the teaching of the Edinburgh School of Surgery, and is thoroughly up-to-date in every respect. A feature of the book is the inclusion of a short *résumé* of the surgical anatomy of the tissue or region concerned. The teaching is sound, and it is unnecessary to state that coming from the Edinburgh School it is eminently practical. The illustrations are numerous, well selected, and for the most part original. We presume the work will be completed in two volumes. The instalment before us is of very convenient size, the type is clear, and not tiring to the eyes to read.

There is a complete index, and we shall look forward with pleasure to the completion of a manual so ably begun. We have nothing but praise for this first volume.

A Clinical Handbook of Urine Analysis. By C. H. BEDFORD, D.Sc., M.D. Second Edition. Edinburgh: Bell & Bradfute. 1904. Pp. 160.

DR. BEDFORD is a major in the I. M. S., and has filled several important posts in India—viz., Professor of Chemistry, Lahore Medical College; Professor of

Chemistry, Calcutta Medical College; and Consulting Chemist to the Government of India, Calcutta.

He has also published a Synopsis of Practical Chemistry, which has reached a second edition, and a short manual of the symptoms and treatment of poisoning.

He is, therefore, well qualified for the task which he set before him of producing a practical guide to urine analysis in a brief; simple, and convenient form.

The first edition of this book was published in India. The present edition has been amplified by about 60 pages, and is enriched by an entirely new set of illustrations. The book is full of practical hints, and is evidently the fruit of close clinical observation, and of appreciation of the needs of students. In some respects it is the best and most compendious account of the subject we have seen, and we can cordially recommend it to the notice of practitioners and students.

The illustrations, however, can scarcely be deemed first class. The book is divided into two main sections—viz., qualitative and quantitative chemical examination. There is a brief but sufficient description of the methods for the detection of gonococci and of tubercle bacilli in urine; otherwise bacteriology is not discussed.

Taken as a whole, the language is clear, and the instructions accurate and helpful, especially as to fallacies and difficulties which beset the inexperienced observer. For example, in the question of distinguishing a trace of true albumin from mucin and nucleo-albumin, attention is very properly drawn to the interesting fact that the urine when diluted with an equal bulk of water gives a more pronounced reaction with HNO_3 in presence of mucin and nucleo-albumin.

Picric acid precipitates nucleo-albumin but not mucin, and it also affords precipitates with deutero-albumose, piperazin, quinine, and antipyrin (phenazone) in urine.

It is worth noticing that, in presence of chlorides, xanthin responds to the murexide test for uric acid.

Fat globules are best stained by an alcoholic solution of a dye, termed "Sudan III.," for osmic acid stains other substances besides fat.

In speaking of the detection of sugar we are not disposed to agree with the author that the safranin test is one of the simplest and surest tests for glucose.

In referring to indigo-substances, Dr. Bedford makes the interesting remark that urinary indican is generally present in relatively large quantity as a normal condition in the urine of persons resident in the tropics.

Some useful data are collected in reference to the detection of various drugs in urine. Urotropin, for example, is excreted as formaldehyde. The urine reduces Fehling's solution, and when treated with equal parts of phenylhydrazin-hydrochloride, and sodium nitro-prusside, and then with excess of liquor potassæ, a dark blue colour appears.

In applying the ordinary test for chlorides in urine it is well to remember that the flocculent precipitate of AgCl may also include combinations of silver with uric acid and creatinin.

A brief account is given of cryoscopy (freezing point determination) as an indication of the excretory activity of the kidney. The estimation of the degree of renal adequacy may possibly sometimes help the surgeon to decide between a nephrotomy or a nephrectomy. Other drug tests of renal excretory power are afforded by methylene blue and phloridzin.

Enough has been said to show that the book is well up to date, and we may again bespeak for it a hearty recognition.

Précis d'Urologie clinique. Par A. LÉTIENNE et J. MASSELIN. Paris: C. Naud. 1904. Pp. 463.

IF this portly volume of nearly 500 pages is only a *précis* one hesitates to guess the size of a complete treatise from the pen of the authors. The work is based mainly upon the investigations of French writers, and accordingly suffers somewhat from the comparative neglect of English and German authorities. Like most French medical books, it is written in an easy, flowing style, yet it is impossible to avoid feeling that the art of condensation might have been profitably employed in its preparation.

The book is divided into four parts—viz., the physical and chemical characters of normal urine, pathological urines, clinical exploration of the kidney, and, lastly, the microbes and parasites of the urine.

A full account is given of urinary cryoscopy—*i.e.*, the depression of the freezing point of urine below that of water, owing to the urinary solids held in solution.

In the section on urinary bacteriology is given a useful analytical table (after Bosc) of the differential characters of the various organisms when cultivated upon "gelose."

As a work of reference we can recommend this treatise, but it is not so well adapted for students. There are only 58 illustrations, which are scarcely up to the standard one looks for from a French publisher.

HOTEL-HYDROPATHIC, PEEBLES, N.B.

On a former occasion—in Volume CXII., 1901, and at page 391—we noticed the establishment of this now well-known health-resort, which is situated in the valley of the Tweed, amidst some of the most beautiful scenery in Scotland, and within easy distance of Edinburgh. The Peebles Hydropathic and Hotel has now been open for six years under the able management of Mr. A. M. Thiem, the proprietor, and Mr. Charles Thiem. The "Cure" consists in the judicious application of (1) advanced electric methods, with the best instruments and apparatus which science has produced; (2) approved hydrotherapeutics (water applications); (3) peat and mud baths; (4) chromopathic light and electric-light baths; (5) Swedish massage and movements, electric vibration massage, and rational physical culture; (6) Open-air treatment, air and sun baths; (7) individual diet; (8) psychotherapy. This "Cure" department of what is also a first-class hotel is equipped with all the best Continental electric instruments and apparatus. Of these the most important are:—The high frequency currents (they have the latest improvement on the former d'Arsonval apparatus); Dr. Alimonda's effectful methods; faradaic and galvanic and "combined" currents; electric light and water baths; electric massage; radiant heat appliances; electric vibration massage; the chromo-light cure; static electricity from a powerful machine; the Röntgen rays, &c.

PART III.

SPECIAL REPORTS.

PROGRESS OF NEUROLOGY AND PSYCHIATRY.

By W. R. Dawson, M.D., F.R.C.P.I.; Medical Superintendent, Farnham House, Finglas; Divisional Secretary for Ireland, Medico-Psychological Association.

RECENT CONTRIBUTIONS TO THE STUDY OF REFLEXES.

Babinski's Reflex, &c.—A valuable paper by Goldflam, of Warsaw, appeared in the December numbers of the *Neurologisches Centralblatt.*[a] The normal plantar reflex in adults consists of a flexion, usually of the four outer toes, at the metatarso-phalangeal joint, with adduction of the toes towards the middle line of the foot. Sometimes, however, there is spreading of the toes, and extension of the phalangeal joints; and other forms are met with. The contraction is tonic, and its extent bears no direct proportion to the strength of the stimulus, nor has it anything to do with the intensity of the tickling sensation. It is absent from about 10 per cent. of persons, and stimulation may then cause contraction of the tibialis anticus and muscles of the thigh. The muscles ordinarily affected are the small muscles of the toes, the centre for which is in the 2nd sacral segment of the cord—*i.e.*, lower than that for the extensor hallucis. The essential characteristic of the Babinski reflex, on the other hand, is extension of the great toe at the metatarso-phalangeal joint, that of the remaining toes being less distinct and sometimes absent, and they may even be flexed. The contraction develops sluggishly, and increases with the strength of the stimulus, affecting first the great toe only, then the other toes, and from the foot it may spread to the tibialis anticus, the flexors of the knee, of the hip, &c. (the "shortening reflex"), and sometimes to the opposite limb. In pronounced cases a light stroking or even mere touch with the finger-tip on the sole of the foot suffices to evoke it; in others more intense irritation (*e.g.*, with a needle) is required. It may sometimes follow stimulation of the dorsum of the foot, the leg, and even the thigh, but the outer part of the sole is usually the most sensitive. The extension of the great toe may be preceded by flexion of one or more of the outer four toes. The contraction is of a peculiar slow vermiform character.

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[a] 1903. Pp. 1109 and 1137.

The author has made observations on 68 cases of hemiplegia, hemi- and mono-paresis of varying origin and duration, and has found the Babinski reflex in 43; in the great majority only on the affected, but sometimes on the sound, side. Ankle clonus was present in 28. In recent apoplexies the Babinski was found at once, and gave the earliest indication of the side affected; later it may disappear. It is usually associated with increase in the tendon-reflexes, and very often with ankle clonus, which is not necessarily a sign of injury to the pyramidal tract, being often found in functional disease, and even in articular rheumatism. In such doubtful cases the Babinski reflex will decide in favour of an organic lesion. The paralysed muscles may be relaxed or contracted. In one case the reflex developed gradually after thrombotic softening of the occipital and parietal lobes. In cases of encephalitic monoparesis neither Babinski's reflex nor ankle clonus was found. For this reflex it seems not to be essential whether the lesion is the cortex, white substance of the hemispheres or midbrain. It was present (without ankle clonus) on both sides in a case of chronic hydrocephalus, absent in several cases of paralysis agitans, in two of cerebral tumour with general symptoms, in three out of four of cerebellar tumour, in one out of three of multiple sclerosis, and in one out of six of syringomyelia. Of 21 cases of transverse myelitis from all causes Babinski's reflex was present in 13, ankle clonus in 17. *Oppenheim's reflex* (contraction of the extensor longus hallucis, tibialis anticus, extensor communis digitorum, and sometimes peronei, on stimulation of the skin on the inner side of the leg), which was found to be always accompanied by Babinski's, though in one case it outlasted the latter, was met with in a case of apoplexy and uræmic coma, in congenital idiocy, and in three out of nine cases of transverse myelitis. In two cases of myelitis affecting the lumbar and sacral portions of the cord Babinski's, Oppenheim's, and the tendon-reflexes were all wanting; but in one of the dorso-lumbar region Babinski's was present in marked degree on strong stimulation. A number of cases of functional nervous disease were tested for Babinski's reflex, but only one patient gave a positive result—a neurasthenic who suffered from severe hæmorrhoidal bleeding which had probably set up changes in the cord. The reflex was present in two out of a number of cases of chronic articular rheumatism, along with increased tendon-reflexes. It was also present in seven out of eight cases of congenital idiocy.

Some interesting observations made during sleep and narcosis showed that in about half of a large number of healthy children Babinski's reflex was present during sleep, but that it was not found in adults narcotised with either ether or chloroform, although with the former drug, and usually with the latter, the tendon-reflexes were increased.

From these and other facts, considered in the light of the observations and theories of Munk and other physiologists concerning the nature and paths of reflexes, Goldflam comes to the following conclusions:—

When the sole of the foot is irritated two kinds of reflex are started—the cortical plantar and the spinal plantar. The former is the normal reflex, and consists chiefly in a flexion of the metatarso-phalangeal joints of the toes. Its path is as follows:—Peripheral nerve, posterior root, posterior column of cord, nuclei, fillet decussation, mesial fillet, parietal lobe (central convolutions presiding over the lower extremity in the opposite hemisphere), along the pyramidal fibres to the ganglion cells of the anterior horn at the level of the second sacral segment, anterior root, nerves to muscles. If this path is impaired at any part of its course from the entry of the posterior root into the cord to the exit of the anterior root, or if the cortical centre is thrown out of action, as in natural sleep, this cortical plantar reflex may be absent, and the stimulus may pass by collaterals directly across the spinal cord to the cells of the anterior horn, especially to the spinal centre of the extensor longus hallucis at the level of the fifth lumbar segment, this constituting the spinal plantar reflex (Babinski's reflex). If the lesion in the path of the plantar-cortical reflex is severe and lasts long, the reflex excitability of the lumbo-sacral portion of the cord increases, so that the spinal reflex may be started not only from the sole but from the skin of other parts of the lower extremities, and there may even be crossed reflexes. But as the spinal reflex path, although existing, has never been opened up, it may happen that this reflex fails to occur even when the normal plantar reflex is absent in consequence of lesion. The spinal plantar reflex is most usually caused by affections of the motor part of the cortical reflex path (*i.e.*, from the cortex to the dorso-lumbar segment of the cord), because such are commoner than affections involving the whole of the sensory path. The presence of Babinski's reflex would, therefore, in most cases imply organic mischief in the brain or cord.

Reflex on the Dorsum of the Foot.[a]—Kurt Mendel finds that dorsal flexion of the four outer toes follows a tap with the plessor on a spot surrounding the bases of the third and fourth metatarsal bones in normal individuals, owing to contraction of the extensor brevis digitorum. This reflex is also present in functional nervous disease, but in some cases with organic lesions it is replaced by a distinct plantar flexion of the same toes. In all such cases there is spastic paresis, and in almost all Babinski's reflex is present. Only the affected side exhibits this change in hemi-paresis, and in many cases showing the Babinski reflex extension is unimpaired. The dorsal reflex may be useful to distinguish between organic and functional nervous disease, as although in the normal form it does not exclude organic, in the abnormal (plantar flexion) it excludes functional disease. Plantar flexion may also serve to distinguish the affected side in cases of apoplexy.

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[a] Neurologisches Centralblatt. 1904. P. 197.

All reflex movement was absent in most cases of polyneuritis, in all of anterior poliomyelitis, in 2 out of 4 of syringomyelia, in one of tabes, and soforth.

Two Undescribed Reflexes in the Leg.—Two new normal cutaneous reflexes have been described by Redlich.[a] If the subject be laid in the prone position with the leg-muscles relaxed and the feet hanging over the edge of the bed, and a stroke made with a needle along the middle line about the centre of the back of the thigh, a contraction of the biceps takes place, and in favourable cases of the semi-membranosus and semi-tendinosus also, and the knee may even be slightly bent. The abductors are rarely affected. If the stroke be carried down in the middle line to the back of the leg, plantar flexion of the foot and toes follows. In some cases the "reflexogenic" area is much larger; in others the reflexes are not obtained at all. The first is the commoner and more distinct. They are livelier in young individuals, but have the sluggish character of all skin reflexes, and possess the same diagnostic and pathological significance. In hemiplegic and hemiparetic cases of all sorts they are weaker or absent on the affected side. In a case of multiple sclerosis, with great exaggeration of the tendon reflexes, stimulation of the back of the leg caused dorsal flexion of the foot and toes.

The Lumbo-femoral Reflex.—D. J. M'Carthy[b] has found in healthy children a reaction similar to the pathological phenomenon called by von Bechterew the *lumbo-femoral reflex*. If the child lies prone with the legs relaxed and the heels together, percussion over the second and third lumbar vertebræ will cause contraction of the semi-membranosus and semi-tendinosus muscles. Von Bechterew found this phenomenon in cases of localised disease of the dorsal cord, when it was accompanied by contraction of the erector muscles of the spine. M'Carthy does not consider either to be a true reflex, but thinks they probably are due to direct irritation of the cord or anterior roots.

A Peculiar Reflex Phenomenon in the Extremities is dealt with by von Bechterew.[a] If the paralysed arm of a hemiplegic patient be passively bent at the elbow, and then let go, the biceps contracts for an instant so as to prevent the arm from extending immediately or even to raise it slightly. If the bent arm be passively extended suddenly the observer feels the resistance. This phenomenon was described by von Bechterew in 1895, and Mohr has found a similar symptom in passive supination. Both are signs of organic mischief, and von Bechterew holds them to be true reflex phenomena excited by passive stretching of the muscle and tendon. He now finds that the same phenomenon may occur with other muscles—*e.g.*, on passive flexion of the elbow, and on flexion or extension of the knee. All are absent in functional hemiplegia.

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[a] Neurologisches Centralblatt. 1904. P. 97.

[b] Neurologisches Centralblatt. 1904. P. 16.

The Corneo-mandibular Reflex.—Von Sölder[b] supports his original view that the above phenomenon described by him[c] (contraction of the external pterygoid muscle on stimulation of the cornea) is of a true reflex character in opposition to Kaplan, who thinks it merely a movement associated with contraction of the orbicularis or other muscles. That the latter is not the case is shown by the facts that pterygoid contraction does not accompany that of the orbicularis when this is caused by stimulation of the cornea, and that it is only unilateral, though the orbicularis contraction is bilateral; further, there is no other movement *regularly* following stimulation of the cornea which could form a link between the stimulation and pterygoid contraction. Such movements are variable and inconstant. It may be added that in a few cases a slight movement of the jaw alone followed irritation of the cornea during deep coma.

A Face Reflex.—It was observed by Professor von Wagner that if, with the lids lightly closed, slight pressure be made on the eyeball, a movement, chiefly of the zygomatics and quadratus labii superioris, takes place. A. Fuchs[d] has studied this in a series of over 100 cases, and found the reflex present in almost 50 per cent. Stimulation of one side sometimes produces movement of both. Irritation in any part of the reflex arc (trigeminus-facial) increases the reflex, which is absent in facial paralysis. It was markedly increased in two cases of tetany. The observation has been found useful in examining children and stuporose patients, and in comparing the condition of the facial on the two sides.

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[a] Neurologisches Centralblatt. 1904. P. 435.

[b] Neurologisches Centralblatt. 1904. P. 13. [c] Ibid. 1902. P. 111.

[d] Neurologisches Centralblatt. 1904. P. 15.

The Strength of the Tendon Reflexes.—K. Pandy[a] attaches great importance to the strength of the tendon reflexes, and has devised a simple instrument for testing it, which consists of a sliding arrangement attached by a leather band to the limb, and capable of being weighted. By means of this he found the knee reflex on the paralysed side of a hemiplegic patient to be greatly weakened, and he believes that in this way the apparently exaggerated tendon reflexes of hemiplegics will be found really to be impaired in the same way as the voluntary movements, and that as a matter of fact the reflex and voluntary paths are the same. This position he supports by some ingenious arguments, and extends to include all the reflex phenomena of the unimpaired nervous system. The cases where the skin and tendon reflexes persist after high transverse lesions of the cord he would explain on the theory that when the cord is interrupted without irritation all reflexes are absent, but if there is irritation at the site of the lesion the reflexes remain, and if previously absent may even return. This "abnormal" subcortical occurrence of reflex phenomena always takes place in the proximal, never in the distal, parts of the surviving nervous system. Lastly, he calls attention to a method of detecting latent patellar reflexes devised by Professor Laufenauer. The patient being seated with the sole of his foot on the ground and the thigh muscles relaxed, the observer lays a hand upon the quadriceps just above the knee, and orders the patient to press his (the observer's) arm with one hand. At the moment of giving the order the patellar tendon is struck. The same method may be used for the upper extremities also.

[a] Neurologisches Centralblatt. 1904. P. 449.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Sir Thornley Stoker, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—Sir John Moore, M.D., D.P.H., F.R.C.P.I.
Sectional Secretary—Francis C. Martley, M.D., D.P.H., F.R.C.P.I.

Friday, April 22, 1904.

The President in the Chair.

Poisoning by Cantharides.

Dr. Martley brought forward a case in which an elderly woman had been poisoned by this substance. About an ounce of the powdered drug had been administered to her in a glass of rum, but in spite of the amount having been so large, she survived for thirty-one and a half hours.

On the Cases of Poisoning by Coal-gas that have occurred in Dublin since the addition of Carburetted Water-gas to the Ordinary Coal-gas.

A paper on this subject was read by **Professor E. J. McWeeney**, M.D. [This paper will be found at page 17.]

Professor Tichborne said that in the last case it was evident that the CO did not come from the combustion of the gas, as it would then have been converted into CO_2, but must have got into the room as CO. He suggested that as the accident had happened about 9 30 p.m., a time when there was great pressure in the mains, the CO might have escaped through the air inlets in the Bunsen burners.

Dr. Beveridge, referring to the case which occurred in a hotel, considered that the rooms in hotels should be on the same footing as the berths in passenger steamers, which were subject to inspection, to ensure that suitable accommodation had been provided for each passenger.

Dr. Delahoyde felt that a good deal of the ill-health among the working classes was to be put down to the use of penny-in-the-slot meters and gas cooking stoves, which were not connected with a flue.

Dr. Kirkpatrick thought it remarkable that CO gas was escaping at such a rate as to poison a man, and saturate his hæmoglobin to the extent of 80 per cent. and yet that it did not explode, though the gas jet was lighted all the time.

After remarks from Dr. Carrington, Dr. M'Vittie, and Dr. Bewley, Professor McWeeney replied.

The Duties of Medical Men at Coroners' Inquests.

Dr. Martley then read a short paper on a subject that had been suggested by events which had been reported by the Press to have occurred at a recent inquest. It appeared that a man had been brought dead into a hospital, at which he had attended as an out-patient more than six months previously. The coroner asked the house-surgeon to give his opinion as to the cause of death, without making an autopsy. This he declined to do, whereupon the coroner directed the jury to find a verdict.

The following resolution was then adopted unanimously by the Section:—" Resolved that the Council of this Section be requested to communicate to the Council of the Academy the facts relative to the case in which one of the Dublin coroners recently called upon a member of the medical profession to certify to the cause of death of a patient who was brought dead into the Royal City of Dublin Hospital, with a recommendation that those facts, as well as the relation of the profession to Coroners' Courts, should be brought under the notice of the authorities."

SECTION OF PATHOLOGY.

President—HENRY C. EARL, M.D., F.R.C.P.I.
Secretary—ARTHUR H. WHITE, F.R.C.S.I.

Friday, April 29, 1904.

The PRESIDENT in the Chair.

Leishman-Donovan Bodies.

DR. T. G. MOORHEAD showed three slides in which the Leishman-Donovan bodies appeared, giving a description of the cases from which they were taken, and a history of the discovery of the bodies and their relation to malaria.

Punctate Basophilia.

PROFESSOR E. J. MCWEENEY showed specimens of blood from a case of pernicious anæmia exhibiting this condition. Many of the red corpuscles were thickly sprinkled with granules of strongly basophilic character, which could be detected in preparations stained by Jenner's and Pröscher's modifications of Romanowsky's stain, as well as in triacid preparations. He was inclined to look upon the granule as due to raryorrhexia.

Trypanosomiasis.

PROFESSOR E. J. MCWEENEY showed slides of rabbit's blood containing the nagana parasite; also of human blood containing the parasite of sleeping sickness. These latter had been given him by Dr. MacCarthy, Travelling Scholar in Pathology of the Royal University of Ireland, who had obtained them from the Pasteur Institute where he had been working. The nagana or surra disease had been propagated for a number of generations in exhibitor's own laboratory, starting from a white rat brought from Paris by Dr. MacCarthy. He also exhibited the Trypanosoma Lewisii, which infects the ordinary sewer rat in Dublin. Out of thirteen rats examined he had found it in six. The morphology of the parasite was demonstrated by means of photographs and coloured sketches projected on the screen, and the speaker concluded by referring to Professor Minchin's application of the name trypanosome to a stage in the evolution of the malarial parasite.

Exhibition of Specimens.

Dr. Neville showed the following specimens, giving a description of each:—(*a*) Sloughing fibro-myoma of uterus; (*b*) tubo-ovarian cyst; (*c*) tubal pregnancy, showing decidual cells and hydatidiform degeneration of villi; (*d*) sarcomatous degeneration of a fibro-myoma.

SECTION OF SURGERY.

President—Sir L. H. Ormsby, P.R.C.S.I.
Sectional Secretary—J. Lentaigne, F.R.C.S.I.

Friday, May 6, 1904.

Professor E. H. Bennett in the Chair.

Demonstration in Osteology.

Dr. John Knott exhibited to the Academy a series of the long bones of the human skeleton, showing the various epiphyses, and pointed out the peculiarities of their ossification and final junction with their respective shafts. The clavicle, which a novice would naturally place among the group of long bones, presented several peculiarities of ossification. There is no epiphysis for the acromial extremity; the centre of ossification for the shaft is the first to appear in fœtal life, while the (sternal) epiphysis is usually the last in the skeleton to unite with its shaft. This epiphysis is also distinguished by its peculiar thinness—making it the "battered sixpence" of anatomical similitude, and placing it quite beyond the possibility of the conservative resection of early life. The upper epiphysis of the humerus, which exactly includes the head and tuberosities, has long been familiarly known; but the lower has, till very recently, been always misrepresented. The best English text-books of surgery used to represent an "epiphysary fracture" as including both condyles in the lower fragment. The specimen exhibited showed that the epiphysis was a mere osseous crust, the removal of which hardly diminished the prominence of the condyle. The upper end of the ulna presents a supplemental epiphysis, placed on top of the recognised one, which has remained hitherto undescribed, except by the exhibitor at a former meeting of the Royal Academy of Medicine. The lower epiphysis of the ulna presents no peculiarity, nor does either of those of the radius. The upper end of the femur presents three epiphyses—for head and each trochanter—approximately in the same stage of fusion with the shaft. That for the head is thinner than is usually thought; when detached it is but a concave shell of bone. That for the lesser trochanter is very seldom found, its abrupt prominence and small surface of junction causing it to be almost always lost. The epiphysis of the lower end of the femur is of immense importance in connection with growth and development. As its centre of ossification appears immediately before birth, its presence constitutes the best test of the maturity of the fœtus—no other epiphysis of the skeleton developing an osseous centre during intra-uterine life; and the future gigantism or dwarfism depends more on this epiphysis than on the whole of the rest of the skeleton. Most anatomists place its junction with the shaft at the age of twenty; this is too early for many cases. Till it fuses with the shaft growth continues, and the height of a giant will be found to depend very largely on the length of the femur. The terminal epiphyses of the tibia, being thin, call for great care on the part of the surgeon in the operation of excision. Those of the fibula present no peculiarity, except the well-known one of the early ossification of the lower one.

Removal of the Cæcum and Ascending Colon.

MR. ALEXANDER BLAYNEY read a paper on this subject, and detailed the notes of a case which was sent to him with symptoms resembling those of recurrent appendicitis. A tumour could be felt somewhat above the appendix region, which proved to be a malignant growth infiltrating the beginning of the ascending colon. The cæcum with a small portion of the ileum and the greater part of the ascending colon were removed. The opening in the colon was closed by a double row of sutures, and the lower end of the ileum was implanted on the transverse colon, a Murphy's button being used to effect the junction. There was some leakage from the colon for a few days. The button was removed from the rectum at the end of a fortnight. The patient recovered rapidly, and was quite well six months afterwards, when the paper was read.

SECTION OF MEDICINE.

President—**Sir A. V. Macan**, M.B., Pres. R.C.P.I.
Sectional Secretary—**R. Travers Smith**, M.D., F.R.C.P.I.

Friday, May 13, 1904.

Walter G. Smith, M.D., in the Chair.

A Fatal Case of Myxœdema.

Dr. Drury read a paper entitled " A Fatal Case of Myxœdema." [This paper will be found at page 1.]

Dr. James Craig said he was interested in the lumbar pain complained of by Dr. Drury's patient. He had seen a young gentleman, aged thirty-two, who suffered great pain in his back at the onset of acute myxœdema. Though the case was severe and acute, a good recovery was made on thyroid extract. Dr. Craig questioned whether Dr. Drury had given sufficient thyroid extract in the fatal case recorded.

Radium in Therapeutics.

Dr. C. M. O'Brien read a paper on the present position of radium in therapeutics, with a *résumé* of the Finsen Light and X-ray treatment. [It will be found at page 6.]

Dr. Kirkpatrick had seen good results from the radium treatment of lupus. He thought it more efficient when used in larger quantity than Dr. O'Brien had done.

Dr. Walter Smith recounted his experience of the use of radium in cases of rodent ulcer. The result was good in all his cases.

ABNORMAL POSITION OF THE VERMIFORM APPENDIX.

M. Routier (*Gaz. Méd. de Paris*, April 23) presented at the Surgical Society, Paris, a woman who had very grave symptoms when she came under his care. Her pulse was 128, and the temperature 101.8° F., and there was a very painful spot in the right iliac fossa. As this condition persisted for some days, operative interference was decided on. On cutting down on the position of the appendix, it was found to be enclosed within two folds of the mesentery. On the liberation of the part from its abnormal position the cure was practically effected. This is the first time that the author found the appendix in that position.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir John Moore, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F.R. Met. Soc.
Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

Vital Statistics.

For four weeks ending Saturday, May 21, 1904.

IRELAND.

Twenty-two Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending May 21, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 20.9 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, May 21, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	April 30	May 7	May 14	May 21			April 30	May 7	May 14	May 21	
22 Town Districts	20.1	21.8	21.7	20.9	21.1	Lisburn -	22.7	9.1	22.7	9.1	15.9
Armagh -	13.7	20.6	20.6	41.2	24.0	Londonderry	25.2	16.4	12.6	22.7	19.2
Ballymena	9.6	28.7	4.8	4.8	12.0	Lurgan -	22.1	26.6	48.7	22.1	29.9
Belfast -	20.5	23.1	22.0	21.4	21.7	Newry -	16.8	25.2	16.8	8.4	16.8
Clonmel -	35.9	15.4	20.5	5.1	19.2	Newtownards	17.2	11.4	11.4	11.4	12.9
Cork -	19.9	21.9	26.7	18.5	21.8	Portadown -	15.5	10.3	5.2	20.7	12.9
Drogheda -	12.3	20.4	28.6	16.3	19.4	Queenstown	13.2	26.4	19.8	26.4	21.5
Dublin - (Reg. Area)	20.8	23.1	21.6	21.9	21.8	Sligo -	-	9.6	9.6	14.4	8.4
Dundalk -	16.0	19.9	16.0	23.9	19.0	Tralee -	5.3	15.9	10.6	15.9	11.9
Galway -	15.5	27.2	38.8	19.4	25.2	Waterford -	19.5	21.4	19.5	33.1	23.4
Kilkenny -	24.6	9.8	34.3	34.3	25.8	Wexford -	14.0	32.7	32.7	23.3	25.7
Limerick -	23.2	12.3	21.9	15.0	18.1						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, May 21, 1904, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in sixteen of the districts to 4.9 in Kilkenny. Among the 147 deaths from all causes registered in Belfast are 3 from measles, 2 from scarlet fever, 7 from whooping-cough, and 3 from enteric fever. The 27 deaths from all causes in Cork include one from whooping-cough and one from enteric fever.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, May 21, 1904, amounted to 251—123 boys and 128 girls; and the deaths to 173—86 males and 87 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 23.8 in every 1,000 of the population. Omitting the deaths (numbering 14) of persons admitted into public institutions from localities outside the area, the rate was 21.9 per 1,000. During the twenty weeks ending with Saturday, May 21, the death-rate averaged 27.8, and was 1.6 below the mean rate for the corresponding portions of the ten years 1894–1903.

The total (173) deaths registered include 2 from measles, one from scarlet fever, 2 from influenza, 5 from whooping-cough, one from diphtheria, 3 from enteric fever, and 3 from diarrhœal diseases. The deaths in the 3 preceding weeks from whooping-cough were 3, 11, and 10; the deaths from measles were 2, 4, and 2, respectively.

Nine deaths from broncho-pneumonia and six deaths from *pneumonia* were recorded.

Tuberculous disease accounted for 31 deaths—viz., 4 from tubercular phthisis, 19 from *phthisis*, 4 from tubercular meningitis, one from tubercular peritonitis, and 3 deaths from other forms of the disease.

There were 6 deaths from carcinoma; one death was due to sarcoma, and 4 deaths were assigned to *cancer* (*malignant disease*).

The deaths (14) attributed to diseases of the brain or nervous system include the deaths of 5 children (under 5 years of age) from *convulsions.*

Twenty-four deaths from various diseases of the heart or blood-vessels were registered, including 6 from *apoplexy, hemiplegia.*

Nineteen deaths were caused by bronchitis. Three accidental deaths were registered.

In 3 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 2 children under one year old and the death of one person aged 94 years.

Forty-seven of the persons whose deaths were registered during the week ended May 21 were under 5 years of age (20 being infants under one year, of whom 7 were under one month old), and 46 were aged 60 years and upwards, including 23 persons aged 70 and upwards, of whom 6 were octogenarians, and 2 (a man and a woman) were stated to have been aged 94 and 97 years respectively.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended May 21, 1904, and during each of the preceding three weeks.

Cities and Urban Districts	Week ending	Small-pox	Measles	Rubella, or German Measles.	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin -	April 30	-	-	-	5	-	-	5	-	12	10	20	-	-	-	52
	May 7	-	-	-	6	-	-	3	-	-	18	9	-	-	1	37
	May 14	-	-	-	9	-	-	5	-	2	10	13	-	-	-	39
	May 21	-	-	-	5	-	-	7	-	5	10	14	-	-	-	41
Rathmines and Rathgar Urban District -	April 30	-	-	-	2	-	-	-	-	1	-	-	-	-	-	3
	May 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May 14	-	-	-	2	-	-	-	-	-	1	2	-	-	-	5
	May 21	-	-	-	-	-	-	1	-	-	-	1	-	-	-	2
Pembroke Urban District -	April 30	-	-	-	1	-	-	-	-	-	-	-	-	-	19	20
	May 7	-	-	-	3	-	-	-	-	-	1	1	-	-	31	36
	May 14	-	-	-	-	-	-	-	-	-	-	-	-	2	17	19
	May 21	-	-	-	3	-	-	-	-	-	-	-	-	-	20	23
Blackrock Urban District -	April 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May 7	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	May 14	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
	May 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kingstown Urban District -	April 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May 7	-	-	-	1	-	-	1	-	-	-	1	-	-	-	3
	May 14	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	May 21	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
City of Belfast -	April 30	-	-	-	16	-	-	9	-	5	18	7	-	-	-	55
	May 7	2	-	-	11	4	-	6	3	11	7	8	-	-	-	52
	May 14	2	-	-	13	-	-	2	-	7	9	8	2	-	-	43
	May 21	1	-	-	6	-	-	5	-	4	6	2	-	-	-	24

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended Saturday, May 21, 1904, 2 cases of measles were admitted to hospital, 2 were discharged, and 25 patients remained under treatment at its close.

Six cases of scarlet fever were admitted to hospital, 9 cases were discharged, there was one death, and 47 cases remained under treatment at the close of the week. This number is exclusive of 12 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

One case of typhus remained in hospital at the end of the week.

Six cases of diphtheria were admitted to hospital, 8 were discharged, there was one death, and 21 cases remained under treatment at the close of the week.

Five cases of enteric fever were admitted to hospital, 8 cases were discharged, and 25 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 12 cases of pneumonia were admitted to hospital, 9 patients were discharged, and 25 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, May 21, 1904, in 76 large English towns, including London (in which the rate was 15.1), was equal to an average annual death-rate of 15.5 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 18.7 per 1,000, the rate for Glasgow being 19.5 and for Edinburgh 18.2.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of May,* 1904.

Mean Height of Barometer, - - -	29.899 inches.
Maximal Height of Barometer (19th, at 9 p.m.),	30.233 ,,
Minimal Height of Barometer (1st, at 9 p.m.),	29.502 ,,
Mean Dry-bulb Temperature, - - -	51.7°.
Mean Wet-bulb Temperature, - - -	48.2°.
Mean Dew-point Temperature - -	44.6°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.298 inch.
Mean Humidity, - - - - -	77.5 per cent.
Highest Temperature in Shade (on 16th), -	69.6°.
Lowest Temperature in Shade (on 8th), -	37.5°.
Lowest Temperature on Grass (Radiation) (8th),	35.1°.
Mean Amount of Cloud, - - -	54.9 per cent.
Rainfall (on 18 days), - - -	2.685 inches.
Greatest Daily Rainfall (on 31st), - -	1.092 ,,
General Directions of Wind, - -	W., S.W., E.N.E.

Remarks.

May, 1904, was in general a favourable month. The first week, however, proved unsettled, windy and at times rainy. At its close the weather was extremely cold, and the mean temperature of Sunday, the 8th, was only 43.8°, the thermometric range being from 37.5° to 51.0°, showers of hail and "graupel" falling at frequent intervals, and the wind blowing keenly from N. In the course of the second week the season passed from winter to summer. On Monday, the 16th, a transient heat wave sent the thermometer up to 99° at Biarritz, 91° at Rochefort, 87° at Lyons, 80° in Paris, 73° in London, and 70° even in Dublin. From the 24th to the end of the month the weather was fine in the neighbourhood of Dublin, but changeable and dull in the S.E. of England and the Thames valley. Curiously, the heaviest rainfall credited to the month (1.092 inches) fell after midnight on the morning of the 1st of June. Were it not for this accident the rainfall of the month would have been below average. The estimated duration of bright sunshine was 195.75 hours, compared with 178.5 hours in 1903, 178.75 hours in 1902, and 302.25 hours in 1901. The daily mean duration of sunshine was 6.3 hours, compared with 5.76 hours in May, 1903.

In Dublin the arithmetical mean temperature (53.0°) was 0.9° above the average (52.1°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 51.7°, a value identical with that for May, 1903. In the forty years ending with 1904, May was coldest in 1869 (M. T. = 48.2°), and warmest in 1893 (M. T. = 56.7°). In 1902 the M. T. was 49.9° ; in 1903 it was 52.9°.

The mean height of the barometer was 29.899 inches, or 0.090 inch below the corrected average value for May—namely, 29.989 inches. The mercury rose to 30.233 inches at 9 p.m. of the 19th, having fallen to 29.502 inches at 9 p.m. of the 1st. The observed range of atmospheric pressure was, therefore, only 0.731 inch

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was (as in 1903) 51.7°, or 3.9° above the value for April, 1904—47.8°. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* × .47), the value is (as in May, 1903) 52.5°, or 0.8° above the average mean temperature for May, calculated in the same way, in the thirty years, 1871–1900, inclusive (51.7°). The arithmetical mean of the maximal and minimal readings was 53.0°, compared with a thirty years' average of 52.1°. On the 16th the thermometer in the screen rose to 69.6°—wind, S.W. ; on the 8th the temperature fell to 37.5°—wind, N. The minimum on the grass was 35.1°, also on the 8th.

The rainfall amounted to 2.685 inches, distributed over 18 days. The average rainfall for May in the thirty-five years, 1866–1900, inclusive, was 2.020 inches, and the average number of rainy days was 15. The rainfall and the rainy days were, therefore, both above the average. In 1886 the rainfall in May was very large—5.472 inches on 21 days; in 1869, also, 5.414 inches fell on 19 days. On the other hand, in 1895, only .177 inch was measured on but 3 days. In 1896 the fall was only .190 inch on 7 days. In 1903, 2.384 inches fell on 17 days.

A solar halo appeared on the 20th. High winds were noted on 9 days, and attained the force of a gale on the 1st, 2nd and 5th. Hail fell on the 7th, 8th and 17th. There were slight fogs on the morning of the 4th, and at night on the 28th. Thunder was heard on the 22nd.

During the month the thermometer did not fall below 32° in the screen or on the grass. The mean minimal temperature on the grass was 42.6°, compared with 44.3° in 1903, 40.3° in 1902, 41.7° in 1901, 41.6° in 1900, 40.6° in 1899, 42.9° in 1898, 40.9° in 1897, 43.1° in 1896, 41.8° in 1895, and 37.6° in 1894. The maximum reached or exceeded 60° on 15 days, but never fell short of 50°.

The rainfall in Dublin during the five months ended May 31st amounted to 11.741 inches on 92 days, compared with 12.560 inches on 95 days in 1903, 9.973 inches on 81 days in 1902, 7.724 inches on 67 days in 1901, 9.921 inches on 92 days in 1900, 9.652 inches on 87 days in 1899, 10.568 inches on 84 days in 1898, 10.693 inches on 93 days in 1897, 5.971 inches on 70 days in 1896, 10.410 inches on 68 days in 1895, and a thirty-five years' average of 10.140 inches on 80 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.897 inches, the highest reading observed being 30.233 inches at 9 p.m. of the 19th, the lowest, 29.499 inches at 9 p.m. of the 1st. The arithmetical mean temperature was 52.1°, the mean dry-bulb reading at 9 a.m. and 9 p.m. being 51.6°. Rain fell on 16 days to the amount of 2.627 inches, 1.092 inches being measured on the 31st. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 192.5, giving a daily average of 6.2 hours. The corresponding figures for January, 1904, were 45.25 hours and 1.46 hours; for February, 37.25 hours and 1.28 hours; for March, 89.75 hours and 2.9 hours; and for April, 168 hours and 5.6 hours.

At Knockdolian, Greystones, Co. Wicklow, the rainfall, measured by Mr. R. Cathcart Dobbs, J.P., was 2.990 inches, distributed over 16 days—1.000 inch falling on the 31st, and .750 inch on the 1st. The total fall since January 1st, 1904, equals 12.027 inches on 84 days, compared with 15.655 inches on 79 days in 1903, 11.750 inches on 68 days in 1902, 11.205 inches on 65 days in 1901, 16.381 inches on 84 days in 1900, 15.475 inches on 86 days in 1899, 12.445 inches on 78 days in 1898, 14.120 inches on 90 days in 1897, 5.716 inches on 52 days in 1896, and 12.845 inches on 58 days in 1895.

Dr. Arthur S. Goff returns the rainfall at Lynton, Dundrum, Co. Dublin, as 2.46 inches on 18 days, compared with 2.86 inches on 18 days in 1903, 3.26 inches on 22 days in 1902, and 1.09 inches on 10 days in 1901. The greatest daily measurement was 1.03 inches on the 31st. The temperature in the shade ranged from 69° on the 29th to 38° on the 8th. The mean temperature of the month was 53.3°, compared with 53.1° in 1903, 50.5° in 1902, and 52.6° in 1901.

Dr. B. H. Steede, M.D., reports that at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall for the month was 2.908 inches on 18 days, .804 inch being registered on the 31st, and .564 inch on the 1st. Since January 1st, 1904, 14.498 inches of rain have fallen at this station on 92 days. The highest temperature in the shade was 65.1° on the 12th and 28th, and the lowest was 35.2° on the 8th.

According to Mr. Robert O'B. Furlong, C.B., the rainfall at Cloneevin, Killiney, was 2.48 inches on 15 days, compared with 2.54 inches on 15 days in 1903, 2.58 inches on 21 days in 1902, and 1.20 inches on 10 days in 1901. The maximal fall in 24 hours was 1.07 inches on the 31st. The average rainfall in May at this station during the 19 years, 1885-1903 inclusive, was 2.087 inches on 13.7 days. Since January 1st, 1904, 11.50 inches of rain have fallen at Cloneevin on 84 days. From May 9th to 30th only .25 inch fell.

At Cork Mr. Wm. Miller returns the rainfall at 2.26 inches on 18 days, or 0.08 inch over the average for May. The greatest day's rainfall was 0.40 inch on the 4th. Up to May 31st, the rainfall of 1904 in Cork amounted to 17.17 inches, or 2.21 inches above the average.

At the Railway Hotel, Recess, Connemara, Co. Galway, Mr. A. A. Smith reports that rain fell on 20 days to the amount of

3.395 inches, the maximal daily measurement being .940 inch on the 5th. In May, 1903, the rainfall was 3.100 inches on 15 days.

At the Ordnance Survey Office, Phœnix Park, Dublin, rain fell on 18 days to the amount of 2.339 inches, the greatest measurement in 24 hours being 1.140 inches on the 31st. The total amount of bright sunshine was 207.5 hours, the largest daily amount being 14.7 hours on the 29th.

Dr. J. Byrne Power, F.R. Met. Soc., Superintendent Medical Officer of Health, Kingstown, reports that the mean temperature at that health resort was 52.4°, being 0.7° above the average for May during the previous 6 years. The extremes were—highest, 69.2° on the 12th; lowest, 37.5°, on the 8th. At Bournemouth the mean was 50.9°, the extremes being—highest, 69° on the 31st; lowest, 39°, on the 9th and 11th. The mean daily range of temperature was 13.3°, and 14.7° at Bournemouth. The relative humidity of the atmosphere was 77 per cent. The total rainfall was 2.67 inches on 14 days, of which amount 1.08 inches fell between midnight on the 31st, and 9 a.m. on June 1st; at Bournemouth it amounted to 2.85 inches on 19 days. The total duration of bright sunshine was 179.6 hours, compared with 207.4 hours at the Ordnance Survey Office Phœnix Park, 157.4 hours at Valentia, 151 hours at Parsonstown, 153.3 hours at Southport, 151.3 hours at Bournemouth, and 154.5 hours at Eastbourne.

COCAÏNISATION IN ABDOMINAL SURGERY.

M. Chaput (*Gaz. Méd. de Paris*, April 23) recommends local cocaïnisation in abdominal surgery. For very nervous subjects he considers it more suitable than a general anæsthetic. He says the method of Réclus is indicated when a general anæsthetic is dangerous; and he believes it to be always preferable to general anæsthesia in cases of superficial laparotomies. When the agitation of the patient makes the continuation of the operation under cocaïn impracticable, it becomes necessary to have recourse to a general anæsthetic, the effects of which are simply increased by the previous cocaïnisation. Under cocaïn he has performed 25 laparotomies, appendicectomies, hysterectomies, ovariotomies, and gastro-enterostomies. The majority of the patients could not have taken a general anæsthetic.

PERISCOPE.

POST-GRADUATE VISITS TO THE FRENCH MINERAL SPRINGS AND HEALTH RESORTS.

The sixth annual " Voyage d' Études Médicales " will take place from September 3 to 15, 1904. The tour will include the springs of Central France and of Auvergne, which will be visited in the following order:—Néris, Évaux, La Bourboule, Le Mont-Dore, Saint-Nectaire, Royat, Chatel-Guyon, Vichy, Bourbon-l' Archambault, Bourbon-Lancy, Saint-Honoré, Pougues—the sanatoriums of Lamotte-Beuvron and Dortol, the health resorts of Vic-sur-Cère and Lioran. The V. E. M. of 1904—like the five preceding " Voyages "—is under the scientific direction of Dr. Landouzy, Professor of Clinical Medicine in the Faculty of Medicine, Paris, who will deliver lectures on the spot on medication by mineral waters, its indications and applications. A reduction of half-price will be allowed by all the railways from the tourist's place of residence in France to the rendezvous at Lamotte-Beuvron. Foreign physicians will benefit by this reduction from the railway station at which they enter French territory. The same reduction will be allowed, at the end of the tour, at Pougues, where the party will break up, for the return journey to the station from which each member started. From Lamotte-Beuvron to Pougues the contract price is 250 francs (£10), including all charges—railways, carriages, hotels, living, luggage, gratuities. Dr. Carron de la Carrière, 2 rue Lincoln, Paris (viii^{e} arrondissement), will give all information and will receive the names of intending tourists up to August 15, 1904, when the list closes.

SUNSHINE.

The *Lancet* has on two occasions (May 14 and June 11, 1904) engaged itself in the truly meritorious, as well as highly patriotic, task of instituting a comparison of the respective sunshine output of the firmaments of England (South) and Switzerland. The first of these contrasts was that afforded by the month of April, in which it was demonstrated that the advantage was altogether on the side of the more northern atmosphere. The records of the month of May, however, reversed the conditions ; the only British station approaching the majority of the Swiss being Jersey—an item of British territory which " represents Normandy far better than it does England." The Swiss values were probably higher than would appear from a first glance at the table, as the two days whose records are missing were almost cloudless. On the other hand all the English totals were much below those of a normal May, especially on the coast of Sussex; while London, which had presented a greater excess than the other stations for April, maintained its relative superiority by having a comparatively small deficit in May. The disproportion in the records from Switzerland and our own coast is, of course, greater than it appears, as at this time of year the sun is above the horizon for an appreciably longer time in England than in Switzerland. Of the records of the latter country, the most sunny of the Swiss resorts was Lugano (near the Italian border); this was followed at a respectful distance by Berne, Davos, and Zürich; while Santis, the station of highest altitude proved to be that of lowest quantum of sunshine. The figures are as follow:—

May Sunshine in the South of England and in Switzerland.

Stations.	No. of hours.	Difference from average.	Stations, with altitude.	No. of * hours.
Aberystwyth ..	172	?	Geneva (405 metres)	182
Scilly Isles ..	163	- 75	Lausanne (563 ")	199
Plymouth ..	178	- 40	Montreux (553 ")	186
Jersey ..	193	- 57	Berne (572 ")	208
Torquay ..	183	- 47	Basle (278 ")	186
Bournemouth ..	172	?	Zürich (493 ")	204
Hastings ..	158	- 77	Santis (2,500 ")	178
Margate ..	143	- 52	Davos (1,560 ")	205
Bath ..	142	?	Lugano (275 ")	239
London (Westminster)	130	- 34		

THE INFANTS' HEALTH SOCIETY.

This Society was formed at a meeting held on February 11th, 1904. Its objects are to spread a knowledge of, and to put on an organised basis, the best methods of systematically dealing with the chief factors prejudicially affecting the health and life of infants; to encourage the formation of institutions, such as dispensaries and milk depots, &c., for the purpose of supplying, either with or without payment, food adequate in quantity and quality for the needs of each infant; and to co-operate with other bodies, public or private, either by direct affiliation or otherwise; to make grants from any surplus funds at its disposal to any bodies responsible for undertakings in consonance with the aims of the Society; and generally to further the work of the Society by means of pamphlets, leaflets, lectures, and all other measures that may be deemed desirable. It is impossible to exaggerate the importance of thus combating at the very fountain head the present terrible waste of infant life and the physical degeneracy of so many of the survivors—evils which have occupied the attention of the public recently both from the point of view of the general welfare of the community and of army recruiting. Membership of the Infants' Health Society is open to all who sympathise with its objects, the minimum subscription of members being £1 1s. per annum. The payment in one sum of £30 constitutes the donor a life member. The funds of the Society will in the first instance be devoted to the up-keep of the Infants' Hospital at present situated in Denning-road, Hampstead. The first annual report of the Hospital contains an account of the work during 1903, and a statement of the receipts and expenditure during the same period. It is estimated that £1,000 per annum will be sufficient to meet the moderate requirements of the Hospital so long as it retains its present form. This Hospital serves as a nucleus for the propagation of the Society's ideas and an object-lesson of the results which can be obtained by the treatment of cases of malnutrition in infants on scientific lines, but it is hoped that sufficient support will be forthcoming to further the general work of the Society. Further particulars can be obtained by application to the Secretary, Infants' Health Society, 120 Victoria-street, S.W.

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* These totals are not quite complete, the returns for the 6th and 21st not being available.

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LISBON, APRIL, 1906.

We have received the first number of the Journal of the Fifteenth International Congress of Medicine, which will take place in Lisbon from the 19th to the 26th of April, 1906. This number contains the Statute of the Congress, the organisation of the sections and of the National Committees of the different nations. The second Article of the Statute limits the membership of the Congress to medical men and scientists nominated by the National or Portuguese Committees. The subscription is 25 francs or 20 marks or one pound sterling. The work of the Congress is to be distributed into 17 sections:—(1) Anatomy (descriptive and compared anatomy, anthropology, embryology, histology); (2) Physiology; (3) General pathology, bacteriology and pathological anatomy; (4) Therapeutics and pharmacology; (5) Medicine; (6) Pædiatry; (7) Neurology, psychiatry and criminal anthropology; (8) Dermatology and syphilography; (9) Surgery; (10) Medicine and surgery of the urinary organs; (11) Ophthalmology; (12) Laryngology, rhinology and stomatology; (13) Obstetrics and gynæcology; (14) Hygiene and epidemiology; (15) Military Medicine; (16) Legal Medicine; (17) Colonial and Naval Medicine. The Executive Committee of the Congress intends to print, before the reunion, all the official reports. It is necessary that they shall be handed in to the General Secretary before the 30th of September, 1905. Voluntary communications should be handed in before the 31st of December, 1905, if the authors desire to have an abstract printed before the opening of the Congress. The official language is French. In the general meetings, and also in the sections, English, German, and French may be used. We observe that the Committee of the Congress has excluded Portuguese from the languages permitted—this has been done only with the intention of diminishing the number of languages spoken. There can be no jealousy, when the law-giver begins by sacrificing himself. The President of the Committee of Organisation is Dr. M. da Costa Alemao; the General Secretary is Dr. Miguel Bombarda. All applications for membership must be addressed to this Physician (Hospital de Rilhafolles, Lisbon).

ELASTICITY OF THE AORTA.

At a meeting of the Royal Medical and Chirurgical Society held on Tuesday, 31st May, 1904, W. P. Herringham, M.D., and W. A. Wills, M.D., read a paper on the elasticity of the aorta, being a contribution to the study of arterial sclerosis. The aortas examined all recoiled to their original length when the pressure was removed, but varied greatly in the degree to which they stretched. It is this latter point which is recorded in the paper.

The instrument used by the authors is a lever of the first order with a long arm on which a weight travels. At the end of the arm is a pen which writes on a flat board travelling at the same rate as the weight. The resulting line is a curve on which the abscissæ record the weight, the ordinates the degree of elasticity of the aorta. It is founded on that invented by Roy. The material used comprised 100 male and 28 female aortas. The latter were less elastic than the former, but otherwise obey the same laws, and are not referred to in detail. The 100 cases were almost equally distributed among the ages 20–30, 30–40, 40–50, 50–60, and over 60. In each case the age, the width and condition of the aorta, the weight and condition of the heart, the mortal and the coincident diseases are recorded, and the degree of elasticity as shown by the curve is measured under pressures of 50, 100, 150, and 200 grammes. The histological changes are described in detail. The authors draw the following conclusions:—1. The aorta follows the law laid down by Wertheim for the elasticity of organic bodies. 2. Its width increases with age as the result of the internal pressure exercised upon it by the natural forces of the circulation. 3. The more it thus becomes dilated the less is it capable of being further stretched. 4. When stretched by weights up to 200 grammes, aortas, even when dilated, retain the power of returning to their original volume. 5. No simple mathematical relation obtains between dilatation and loss of elasticity. 6. Elasticity depends, chiefly upon the tunica media, and the loss of it, chiefly on changes in this. 7. These changes do not lie in the muscular tissue. 8. The amount of muscular tissue, though varying in individuals, probably, except in rare cases, remains the same in each individual throughout adult life. 9. The tunica media increases in substance with age. 10. This increase is to be ascribed to the elastic or to the structureless connective tissue or to both. 11. It is to changes in these latter tissues that the loss of elasticity is to be ascribed. 12. The histological alterations, other than simple increase, are not sufficient to account for this loss.

A SEXTUPLE BIRTH.

M. Marcel Randouin (*Gaz. Méd. de Paris*, April 30), reports the case of six children at a birth. The mother was a young negress. The course of the labour was normal; but for some days afterwards the mother suffered from exhaustion. Her temperature was normal until the third day, when, on the accession of her milk flow, it rose to 101° F. Twenty-four hours later it had fallen to normal, and the patient made a good recovery, except that she was anxious. All the children were born alive, and made some active movements, but after a short time they all died, death being preceded in each case by a feeble cry. They all presented the same stage of development. Their combined weight was 1,730 grammes. The first born, which was the biggest, weighed 305 grammes, and the smallest but 240 grammes. Their length varied from 22 to 26 centimetres. The head was large in proportion to the rest of the body in each child. The eyes were covered with the pupillary membrane; the mouth and noses were open. The nails of the fingers were scarcely recognisable, and the orbital arches were not well marked. The subcutaneous fatty layer was very thin. The genital organs were perfectly differentiated—four were males and two females. There was but one placenta, which was very large, but each fœtus was in a separate sac.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

" Tabloid " Ophthalmic Dionin, 0.0005 *gramme.*

ETHYL-MORPHIN HYDROCHLORIDE, issued under the name of dionin, has been recently submitted to clinical trial with highly satisfactory results. From the published reports this agent appears to possess definite analgesic properties, and at the same time to be free from the disadvantages so often associated with the employment of morphin and its salts. No instance of euphoria or euphoric symptoms following the use of dionin has been recorded. It possesses the further advantage of being, with the single exception of codeïn phosphate, the most soluble of the morphin derivatives. The properties of dionin render it specially useful in ophthalmic work. It is used in iritis, keratitis, glaucoma, vitreous opacities, corneal opacities, and sympathetic ophthalmia; but is contra-indicated in arterial sclerosis of the aged. " Tabloid " ophthalmic dionin is a reliable and extremely convenient means of using the drug in ophthalmic practice. A single tabloid (0.0005 gramme) may be placed on the conjunctiva (where solution immediately takes place), and repeated as may be necessary. The ophthalmic dionin tabloids are issued in tubes of 25, and are, of course, prepared by Messrs. Burroughs, Wellcome & Co.

EXPLANATION OF MICRO-PHOTOGRAPHS.

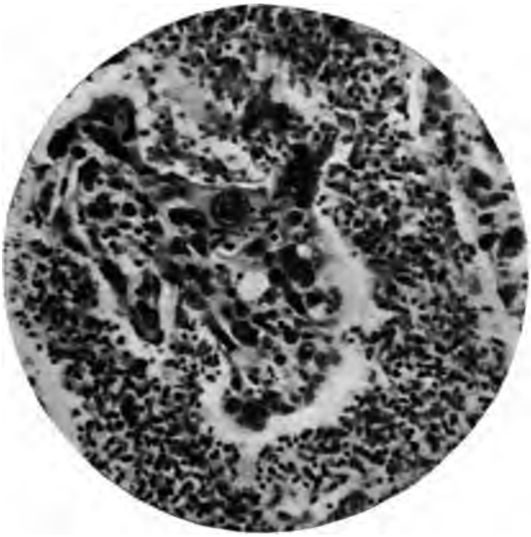
(Micro-photographs by DR. WIGHAM *from preparations of* DR. NEVILLE.*)*

No. 1. (Zeiss' Objective D—Ocular 4).—A markedly atypical squamous cancer of cervix. (Endothelioma?) The epitumoural cells are of very different sizes—some extremely large. Round-celled infiltration.

No. 2. (Zeiss' Objective A—Ocular 4).—An adeno-carcinoma from fundus of same uterus as in No. 1. Here are seen groups of epithelial-lined tubes which have invaded the muscle fibres.

No. 3. Adeno-carcinoma ("cauliflower excrescence") from uterine mucosa.

Nos. 4-8. (Zeiss' Objective A—Ocular 4).—Various types of glandular endometritis. No. 4 Simplest form; slight excess in number of glands. No. 5 and No. 6 More advanced cases. No. 7 Cystic endometritis; here the glands are much dilated, the section appearing like a piece of lacework to the naked eye; note the preservation of typical epithelium. No. 8. A somewhat rare form of hyperplastic glandular endometritis; the gland spaces are dilated and filled by delicate arborescent branchings of the folded epithelium.



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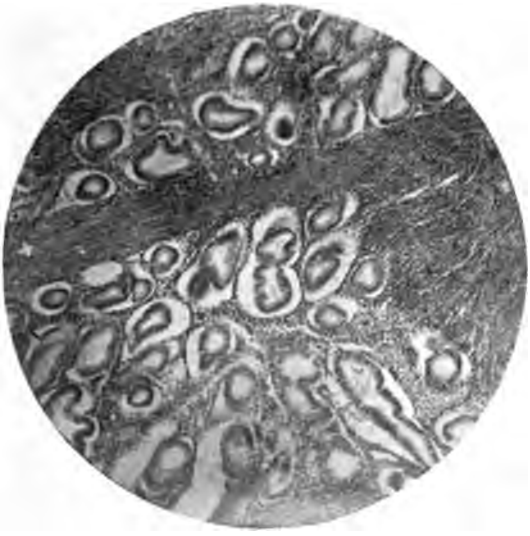

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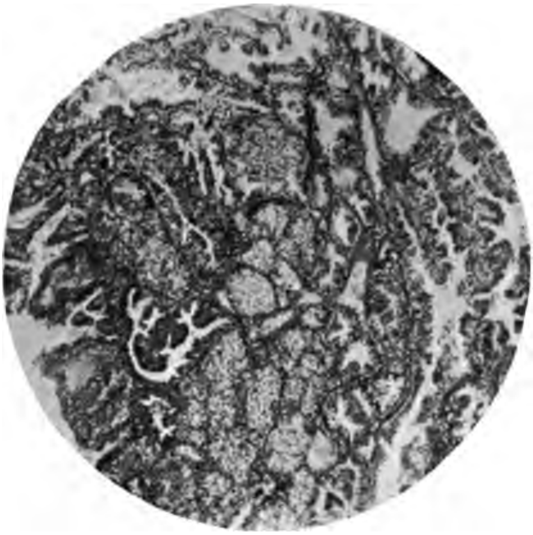

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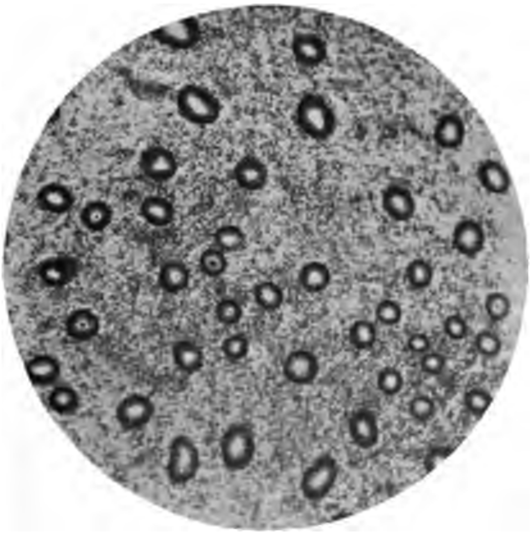

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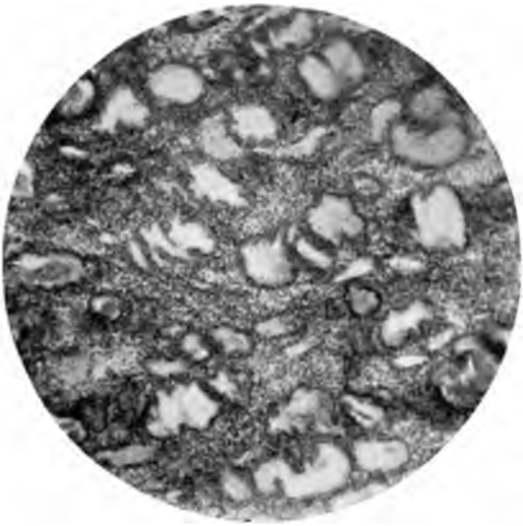

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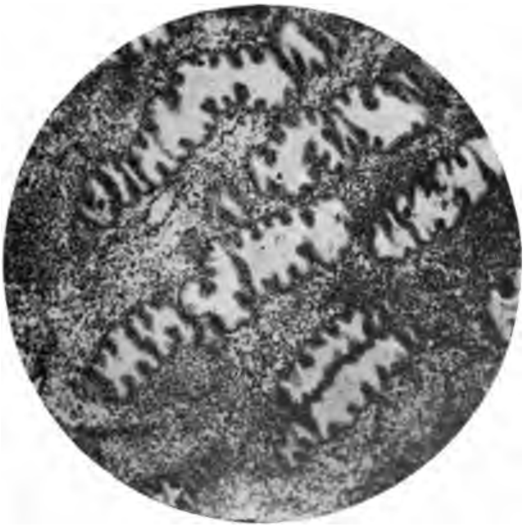

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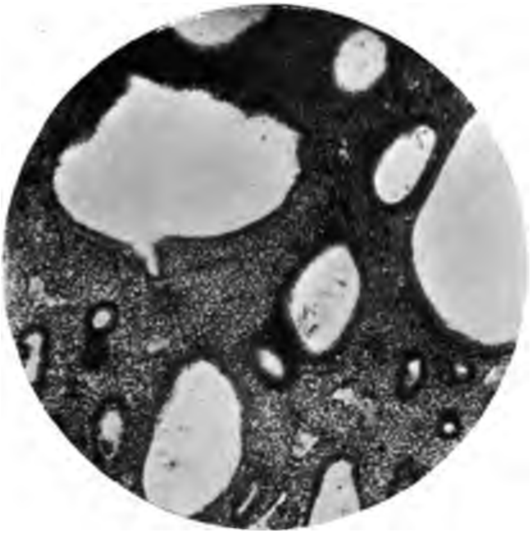

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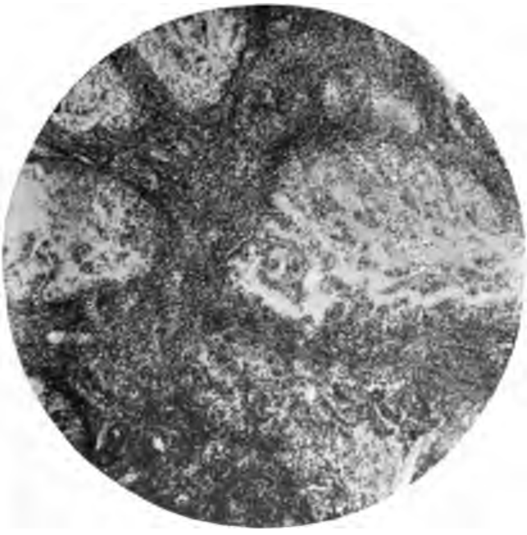

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THE DUBLIN JOURNAL
OF
MEDICAL SCIENCE.

AUGUST 1, 1904.

PART I.
ORIGINAL COMMUNICATIONS.

◆

ART VI.—*Clinical Report of the Gynæcological Department of the Dublin (Rotunda) Hospital for Poor Lying-in Women, for the Year ending November 1st, 1903.* By R. D. PUREFOY, M.D. Univ. Dubl., F.R.C.S.I., Master. (Illustrated.)[a]

DURING the year with which this Report deals the number of patients was somewhat smaller than usual. Amongst the cases of exceptional interest were two of inversion of the uterus, both successfully treated—one by amputation and one by reposition; two examples of pancreatic disease, in one of which the symptoms for many days strongly suggested disease of the gall-bladder, and in the other suppuration occurred in a thin-walled cyst; some of the rarer forms of endometritis, including two examples of the variety termed cystic endometritis. Thanks to the labours of our distinguished Pathologist, Dr. W. C. Neville, I have been enabled to secure illustrations of several of these cases. Our eight cases of tubal pregnancy all ended in recovery; in only six of them was laparotomy deemed necessary.

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[a] **Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, May 20, 1904.**

TABLE I.—LIST OF CASES TREATED.

DISEASE	Total	Cured	Relieved	Not Relieved	Died	REMARKS
VULVA—						
Vulvitis	8	8	-	-	-	
Epithelioma	1	1	-	-	-	
Eczema	5	5	-	-	-	
Labial cyst	4	4	-	-	-	
Chancroids	1	1	-	-	-	
Labial abscess	1	1	-	-	-	
PERINEUM—						
Laceration, simple	48	48	-	-	-	
„ complete	5	5	-	-	-	
URETHRA AND BLADDER—						
Caruncle	5	5	-	-	-	
Calculus	1	1	-	-	-	
Cystitis	1	1	-	-	-	
Urethrocele	1	1	-	-	-	
VAGINA—						
V. V. fistula	2	1	1	-	-	
Vaginitis	15	15	-	-	-	
Cysts	3	3	-	-	-	
Cystocele	20	20	-	-	-	
Rectocele	15	15	-	-	-	
Ischio-rectal abscess	1	1	-	-	-	
Prolapsed rectum	1	-	1	-	-	
CERVIX—						
Polypus	8	8	-	-	-	
Erosions	12	12	-	-	-	
Carcinoma	3	3	-	-	-	
Cysts	7	7	-	-	-	
Hypertrophy	11	11	-	-	-	
Lacerations	28	28	-	-	-	
CORPUS UTERI—						
Metritis	1	1	-	-	-	
Endometritis	88	70	-	-	-	1 membranous, 2 cystic, 1 polypoid
Infantile uterus	1	1	-	-	-	
Incomplete abortion	24	24	-	-	-	
Inversion	2	2	-	-	-	
Carcinoma	9	2	4	3	-	
Sarcoma	1	-	-	-	1	

TABLE I.—LIST OF CASES TREATED.—*con.*

Disease	Total	Cured	Relieved	Not Relieved	Died	Remarks
Corpus Uteri—*con.*						
Pathological anteflexion	18	18	–	–	–	
Retro-displacement -	34	20	14	–	–	
Procidentia - -	8	7	1	–	–	
„ with pregnancy	1	1	–	–	–	
Fixed retroversion -	10	–	–	–	–	
Gravid retroversion -	1	7	–	–	–	
Subinvolution - -	16	16	–	–	–	
Hyperinvolution -	1	–	1	–	–	
Pyometra - -	1	1	–	–	–	
Polypus - - -	4	4	–	–	–	
Fallopian Tubes—						
Pyosalpinx - -	6	5	–	–	1	In one instance pus escaped through the uterus
Salpingitis - -	3	–	3	–	–	
Tubal pregnancy -	8	8	–	–	–	
Ovaries—						
Cysts - - -	16	16	–	–	–	
Dermoid - -	2	2	–	–	–	
Parovarian - -	1	1	–	–	-	
Carcinoma - -	3	3	–	–	–	
Ovaritis - -	3	–	3	–	–	
Miscellaneous—						
Hernia - - -	2	2	–	–	–	
Mastitis - -	1	1	–	–	–	
Cystic kidney - -	1	–	–	1	–	
Pancreatic cyst - -	1	1	–	–	–	
Sapræmia - -	1	1	–	–	–	
Tubercular peritonitis -	1	–	1	–	–	
Perimetritis - -	13	–	13	–	–	
Parametritis - -	3	8	–	–	–	
Malignant disease of pancreas	1	-	–	–	1	

VAGINAL HYSTERECTOMY.

Case I.—A. B., multipara, aged forty-eight. Patient had been in the Rotunda about one year previously suffering from superficial ulceration of cervix, apparently of a benign type, though attended with unusual pain and loss of general health. Local treatment was followed by such improvement that I believed her complete recovery was simply a question of time, and when leaving the Hospital very little disease was discernible. On re-admission we found that the ulceration had extended so much over the anterior vaginal fornix that radical treatment was obviously necessary; its slow advance, the scanty discharge present, and the continuous distressing pain, recalled the cases formerly described as " Rodent Ulcer." My first step in the proceeding for the removal of the uterus was to sear the diseased surface with the thermo-cautery. Owing to the spread of the ulceration towards the anterior lip, the safe separation of the bladder was a matter of some difficulty; in securing the broad ligaments ligatures were used. For two days after the operation blood-stained fluid escaped from the vagina in considerable quantity. Excellent convalescence.

CASE II.—M. S., aged sixty-three, multipara, suffering from bleeding and offensive discharge; anterior lip nearly quite destroyed by ulceration; vaginal roof involved. Uterus movable; on passing a curette into it, pus flowed away in considerable quantity. At time of operation I passed strong silk ligatures through edges of os to close it as much as possible, and to serve as a means of drawing down the uterus. I divided the vaginal walls anteriorly and posteriorly with cautery, and secured the broad ligaments with silk ligatures, which were afterwards cut short. Excellent convalescence.

In connection with these cases of malignant disease I desire to add the following notes on a case (E. C., aged thirty-eight, 17 years married) in my Report of last year. Dr. Neville writes:—" This case is specially interesting, as showing two types of malignant disease in the same uterus. Clinically, it was diagnosticated, and correctly so, as a case of squamous carcinoma affecting the cervix and involving the vaginal vault. The appearances of this cervical carcinoma were peculiar, however, in that they closely simulated in some respects those which are found in syncytioma malignum (*vide* Micro-photograph, No. 1). But the body of the uterus—apparently evenly enlarged to about twice its normal size—was found also to be the seat of an adeno-carcinoma (Micro-photograph, No. 2), in which the glandular tubes, though similar in form to those of the uterine mucosa, were found to own an entirely independent growth." An exact parallel for this case is to be found in the history of H. F., aged fifty-eight, mentioned in my last Report, from which I quote the following:—"The thickened corporeal endometrium is found to consist entirely of a malignant adeno-papillomatous growth, which shows very characteristically the typical form of that cancer. The cervical canal appears healthy; there is nowhere any superficial roughening or loss of substance; but sections through the breadth of the cervical tissue show that here we have an unsuspected—and in no way outwardly evidenced—adeno-carcinoma, occupying the depths of its muscular tissue. The specimen is, therefore, of pathological interest, as presenting two typical forms of cancer: (1) an adeno-papilloma, confined strictly to the endometrium of the body, and (2) an adeno-carcinoma, confined equally strictly to the muscular portion of the cervix."

Table II.—Operations.

Abdominal Fixation	2
Colporrhaphy	30
Colpoperineorrhaphy	12
Emmet's Trachelorrhaphy	19
Schröder's „	13
Removal of Caruncle	5
„ Cervical Polypi	8
„ „ Cysts	7
Posterior Division	11
Perineorrhaphy	53
Panhysterectomy	2
Vaginal Hysterectomy	2
Abdominal „ (for Fibroids)	12
Laparotomy for Tubal Pregnancy	6
Salpingostomy	1
Ovariotomy	18
Salpingo-oöphorectomy	8
Exploratory Laparotomy	7
Vesico-vaginal Fistula	2
Circular Amputation of Cervix	1
Amputation of Uterus for Inversion	1
Reposition „ „ „	1
Herniotomy	2

TABLE II.—*continued.*

Colpotomy	2
Cæsarean Section	1
Cystotomy	1
Removal of Calculus	1

TABLE III.—SALPINGO-OÖPHORECTOMY.

No.	Name	Age	Disease	Operation	Result	REMARKS
1	A. R.	30	Pyosalpinx	Right	R.	
2	E. J. R.	42	,,	,,	R.	
3	L. B.	28	,,	Left	R.	Tubercular salpingitis. Three years previously underwent laparotomy for ruptured tubal pregnancy
4	S. B.	27	,,	,,	R.	
5	A. W.	26	,,	Double	D.	
6	M. G.	24	Tubo-ovarian abscess	,,	R.	
7	M. D.	30	Intralig. cyst and double hæmatosalpinx	Left	R.	
8	M. J. B.	38	Intralig. cyst and salpingitis	,,	R.	

CASE III.—In the case of L. B., the patient's aspect and condition generally suggested excellent health, and it was with considerable surprise I found what Dr. Neville considered evidence of tubercular disease on both tubes. Both were much contorted, the abdominal ostia closed; the larger swelling on the left side consisted of tube and ovary inseparably bound together. They were removed.

CASE IV.—S. B., aged twenty-seven, presents many points of interest. Two years previous to her admission a ruptured tubal pregnancy was diagnosticated, and as it was feared that the accompanying hæmatocele had suppurated, the vaginal wall was incised, giving exit, not to pus, but to a four months' fœtus. Abdominal section was then performed, and the ruptured tube removed.

On the present occasion she was suddenly seized with severe pain in belly and faintness, and presented on admission most of the signs and symptoms of peritonitis. In a few days the trouble was at an end, and pulse and temperature were normal. On making a vaginal examination, a tender lump was felt on the left side, which I suspected to be a distended tube. That evening alarming conditions were again present; rigors, faintness, vomiting, and rapid pulse; and on the following day laparotomy was urgently indicated. I made my incision near the old one, and, only with much anxious care, succeeded in avoiding injury to the coils of intestine which, as I anticipated, were adherent along the old cicatrix. There was ample evidence of intense recent peritonitis, and on separating some adhesions a quantity of turbid fluid and flaky lymph floated up into view. With a little more searching I was able to find a large unruptured pus-tube, which was removed, leaving the corresponding ovary. With a long curved forceps I made an opening in the posterior vaginal fornix, through which a gauze drain was passed into Douglas' space, and finally removed in forty-eight hours. Perfect convalescence followed.

Case V.—A. W., aged twenty-six, had been under our observation for many months. In the beginning double pyosalpinx was easily diagnosticated, but the patient refused operation, especially as the palliative treatment she had undergone had been followed by entire relief from pain, and great improvement in her condition in every respect. After several months she returned in a worse condition than ever, and consented to undergo operation. I made one unsuccessful attempt to reach the pus by colpotomy, so the next time I chose the abdominal route. The intestinal adhesions on both sides were numerous and dense, especially involving the rectum, but I could not at the time detect the point of communication between the left sac and the intestine, through which pus had leaked into the bowel for some time. I passed a gauze drain from Douglas' space into vagina, but all my efforts were unavailing to ward off the sepsis of which she died in a few days.

Case VI.—E. J. R., aged forty-two, presented much difficulty in diagnosis, and for some weeks I regarded it as a case of fibroid uterus, complicated with perimetritis. When she had lain some weeks under observation and palliative treatment, a sudden and marked aggravation of all her symptoms led me to open the abdominal cavity. The omentum was widely adherent to the bladder, and when it had been tied and divided a deep red globular mass, elastic to touch, came into view, occupying a mesial position. The uterus was nowhere visible. What looked very like the appendix was connected with the tumour on the right side, but, on examination, this proved to be the right tube, its expanded abdominal extremity lying adherent in Douglas' space. While separating some of the numerous intestinal and omental adhesions which invested the tumour, it gave way, and pus flowed up freely. I immediately applied a ligature to the left broad ligament, and with much difficulty extricated the now collapsed sac from its adhesions in Douglas' space and separated it from the uterus, which had been completely invested by it. The mesosalpinx was tied and divided, the right tube was similarly dealt with and a drainage bag inserted. Recovery was uninterrupted.

OVARIOTOMY.

CASE III.—In the case of A. M., aged thirty-three, the tumour lay so low in the pelvis and so close to uterus that I was unable to determine before operation whether it was uterine or ovarian. This is the fourth case of primary malignant tumour of ovary which has come under my observation. Bland Sutton avers such cases are of great rarity. This patient is at present (Dec. 16) in rude health. In the other instances recurrence was observed in a few months, and in one in a few weeks.

CASE V.—A. T., aged forty, had been for some years troubled with attacks of severe pain, attended with vomiting and prostration, and suffered thus a few days before admission. The cyst was small, invested by adhesions between it and the intestines and omentum, and the pedicle was twisted on itself three times.

CASE IX.—R. G., aged thirty-two, 3-para, was very interesting owing to the difficulty of making a satisfactory diagnosis. Physical signs were :—Vulva and vagina normal ; cervix large and soft, lying immediately behind symphysis ; uterus thrust forward by a hard mass in Douglas' space, quite fixed. Though the patient's aspect suggested perfect health, I suspected this swelling was a malignant growth. Some hours after being examined, her suffering became so great that I determined to operate the next day. On opening the cœlom the uterus came prominently into view, being pushed up by the mass behind. The latter, however, was so covered over by firmly adherent intestine, that I made no attempt to remove it. The left appendages, quite healthy, lay extended considerably above the uterus. The right ovary also lay some distance above the uterus; it was as large as a golf ball,

TABLE IV.—OVARIOTOMY.

No.	Name	Age	Disease	Operation	Result	Remarks
1	R. F.	27	Small cyst -	L. side	Recovered	
2	H. L.	33	,, -	Parovarian	,,	
3	A. M.	33	Large malignant tumour of ovary	L. side	,,	Carcinoma. Had been operated on some years ago for pyosalpinx
4	H. F.	25	Small cyst -	,,	,,	
5	A. T.	40	Moderate sized cyst -	,,	,,	Pedicle twisted three times; cyst partially emptied before operation
6	A. G.	68	Parovarian -	,,	,,	
7	R. H.	30	,, -	,,	,,	
8	L. W.	38	Dermoid -	,,	,,	
9	R. G.	32?	Papillomatous -	R. Side	,,	Sago-like bodies on parietal peritoneum and intestines
10	M. D.	37	Very large unilocular cyst	,,	,,	
11	L. B.	32	Parovarian -	L. side	,,	
12	A. C.	90	Unilocular cyst -	R. side	,,	
13	F. H.	30	Intraligamentous -	,,	,,	
14	A. R.	35	Dermoid -	,,	,,	
15	M. G.	24	Small cyst -	,,	,,	
16	J. M. P.	44	,, -	,,	,,	
17	M. D.	39	,, -	,,	,,	
18	M. J. B.	—	Small intralig. cyst -	—	,,	

of firm consistence, and studded with warty patches. On the intestines and parietes I observed numerous small, hard, translucent bodies.

Case XIV.—A. R., aged thirty-five, 1-para, was admitted two months after a very difficult labour, suffering from complete perineal laceration; there was also a smooth globular swelling filling up Douglas' space, and elevating the uterus so much that the cervix could not be easily reached. The contents were manifestly fluid, and in order to determine their nature the swelling was aspirated with a hypodermic syringe. As pus cells were present in abundance, I incised the vaginal wall, giving free exit to the fluid, which presently was shown to come from a dermoid by the presence of a coil of hair. The cyst cavity was washed out and packed with iodoform gauze. In about ten days later I opened the belly, broke down some recent thread-like adhesions, and lifted out the cyst, which was firmly adherent to back of uterus and to the edges of the opening in vaginal wall. Through these I passed two silk ligatures, the ends of which were drawn into the vagina, and in the opening I placed a small drain of iodoform gauze; an excellent recovery ensued, though it was retarded for a few days by either a small localised cellulitis, or a hæmatocele.

In last year's Report there is an interesting account of a case in our Maternity in which labour was obstructed by a tumour in the pelvis, which at the time I regarded as a uterine fibroid. When it was pushed out of the pelvis, delivery was easily effected. I allowed the patient home to recruit a little before attempting its removal, but unfortunately she did not return till she was in a moribund condition from suppuration in what proved to be an ovarian dermoid, and general peritonitis. She survived laparotomy and vaginal drainage only two months.

In another similar case, where labour (which took place in the patient's home) was obstructed by a dermoid, a rapidly growing sarcoma developed in the remains of the cyst. In another case, which had been treated in America by posterior colpotomy and drainage, we found on passing a Bozeman catheter into the vaginal openings that some locks of hair were washed out, and the patient was soon able to leave the Hospital quite convalescent. It will always be a difficult point to determine in such cases whether immediate or deferred removal is the safer course to follow; but personally I am in favour of the latter.

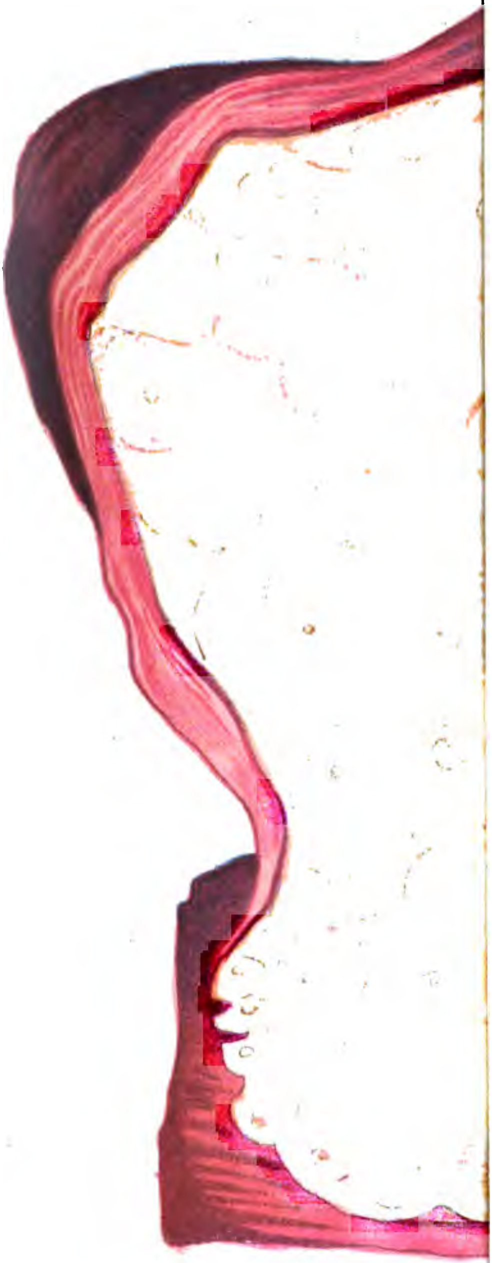
TABLE V.—VENTRAL CŒLIOTOMY; HYSTERECTOMY.

No.	Name	Age	Disease	Operation	Result	Remarks
1	M. S.	45	Fibroid reaching to navel	Supravaginal amputation	Recovered	
2	A. M.	34	Sub-serous fibroid	Myomectomy -	,,	
3	C. G.	29	Fibroid reaching above navel	Supravaginal amputation	,,	
4	M. T.	39	Fibroid and sarcoma	Panhysterectomy -	Died	
5	J. C.	22	Fibroid reaching to navel	Supravaginal amputation	Recovered	
6	M. T.	40	Fibroid reaching nearly to navel	,, ,,	,,	
7	R. H.	42	Fibroid uterus	,, ,,	,,	
8	L. K.	32	,,	,, ,,	,,	
9	S. P.	46	,,	,, ,,	,,	
10	E. H.	42	,,	,, ,,	Died	Died of broncho-pneumonia, of which she had several attacks
11	K. R.	40	,,	,, ,,	Recovered	
12	A. P.	49	,,	Panhysterectomy -	,,	
13	M. B.	39	,,	Supravaginal amputation	Died	

Case I.—In this case a large number of varicose veins in right broad ligament attracted our attention; and when the operation was over a swelling of some size had formed here, and, on pressure, blood flowed from it freely; this was effectually checked by passing a silk ligature through the swelling.

Case II. was jaundiced 48 hours after operation, but her convalescence was uneventful.

Case IV.—M. T., aged thirty-nine, presented many rare points of interest. When first admitted to hospital she was moribund from sepsis; a gangrenous mass, the size and shape of a fœtal head, protruded between labia; her pulse, scarcely to be felt, was 135, her temperature 103.5°, and her aspect generally suggested that no interference could save life. However, I proceeded by morcellation to remove the sloughing tissue and found, when a large portion had been excised, that the growth was a direct continuation of the uterus; this was especially manifest anteriorly where nothing representing a cervix could be made out. A little to the right of the mesian line the glass nozzle of the douche could be introduced behind the pubes to a distance of several inches, but for many days it was impossible to determine whether it entered a greatly elongated vagina or the cervical canal. The tissue removed on this occasion appeared to be that of an ordinary myoma. To our great surprise the patient rallied. During the ensuing four months several similar morcellations were effected, the tissue, however, in these later removals showing plainly sarcomatous characters. Posteriorly for the most part the growth was continuous with the vaginal wall, and any attempt with the finger to separate them disclosed the presence of what might be termed cavernous tissue, traversed by large veins, and bleeding furiously when disturbed. At length I determined, though with little hope of ultimate success, to attempt its entire removal by cœliotomy. The upper portion of the broad ligament on each side was secured without much difficulty, but neither uterine artery could be seen nor felt, though the bleeding was controlled by passing several ligatures with a curved needle in the position usually occupied by the vessels. The uterus was finally transfixed and removed, when it was found that the vaginal canal extended far above the symphysis, and, as had been observed before, the posterior vaginal wall was merged in the diseased mass. The patient only survived the operation a few days.



Sarcoma of Uter

Case VII.—R. H., aged forty-two, sought advice because of dragging pain and swelling in left side. In performing supravaginal amputation in this instance I left the right ovary and tube; two uterine arteries on each side required ligature. I allowed an interval of a few minutes to elapse between the tightening of the two knots on the silk ligature encircling the cervical stump. The compressibility of uterine tissue renders this a wise procedure.

Case VIII.—In the case of L. K., aged thirty-two, one tube was furnished with a supernumerary ostium, and on both tubes several small growths were observed.

Case X.—E. H., aged forty-two. During the eight years preceding admission had more than once nearly died of bronchopneumonia, and had troublesome cough at time of admission. She suffered much from abdominal pains, menorrhagia and frequent micturition, and was anxious for operation. The parietes were very thick, and the bladder extended very high up. There was slight elevation of temperature during the first few days after operation, but the pulse was good, and she was able to take abundant nourishment. Towards the end of the week respiration became hurried and laboured, and grew gradually worse, death taking place on the 11th day, evidently from recrudescence of old lung trouble.

Case XII.—A. P., was admitted suffering from complete laceration of perineum, also severe menorrhagia, which two conditions had greatly impaired her health, and her aspect at times was most unfavourable. The perineum and sphincter were restored, and the patient allowed home to recruit her health. In performing the panhysterectomy, it was found impossible to eventrate the uterus till the upper margin of broad ligament on each side had been tied and divided.

TUBAL PREGNANCY.

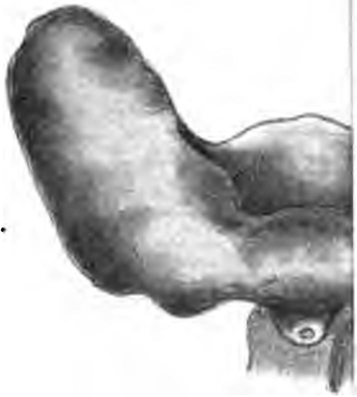
Case I.—R. O., aged twenty-eight, 2-para, was wanting in many of the signs and symptoms of ectopic gestation, but tubal abortion appeared to me the easiest, if not the most likely, explanation of the cyst containing blood lying in Douglas' space.

Case II.—M. L., 3-para, after several weeks' amenorrhœa was attacked with hæmorrhage and pain, followed by pain on micturition and defæcation, connected with a considerable swelling behind uterus. At the time of operation the right appendages were found imbedded in this, but the exact site of rupture was not determined.

Case III.—M. K., aged thirty-seven, 6-para. The uterus lay right in line of incision, thrust forward against parietes, having omentum, which was very redundant, adherent on anterior surface and fundus, thus roofing over a very large mass of coagula. When this was partially removed I had an easy view of large rupture in right tube and the ovum, which had escaped from it, lying close by. The tube and ovary (which was very small) were tied and removed. The condition of the left tube interested me considerably; it was very œdematous, but not being otherwise unhealthy, it was not removed.

Case IV.—E. O'N., aged twenty-five, 2-para, admitted on July 2, 1903. Amenorrhœa since April. Near the end of May began to suffer from pains and bleeding, with attacks of faintness; these troubles are still present, also pain with defæcation and occasional nausea. The belly is very tender, and the uterus is pushed forwards by a soft mass in Douglas' space, reaching two inches above pubes, and everywhere adherent. Operation, July 10. On making incision uterus and appendages were not in view, being pushed to the left by a smooth swelling, lying under and closely adherent to right broad ligament. A large quantity of encysted blood-clot was lifted out of Douglas' space, and with much trouble the tumour connected with broad ligament was detached and tied off at its base; it proved to be a thin-walled cyst, with clear fluid contents. Below it a smaller firm lump was found and shelled out of closely adherent, semi-organised blood-clot. In its outer two-thirds the tube was so incorporated with old adhesions that its outline became unrecognisable. The peritoneum was washed out and dried, the omentum drawn down, and the belly closed.

Case V.—J. M'P., aged forty-four, 2-para, admitted complaining of pains in belly and back, and in right iliac region. The uterus is erect, and lying in front of it is an elastic mass, size of a Tangerine orange. The case was regarded as a ruptured tubal pregnancy. Operation, Sept., 23. Parietes very thick; on opening cœlom free blood was observed; firm adhesion between omentum and parietes in middle line, close to bladder, uterus and appendages entirely covered by intestines. Omentum detached with difficulty



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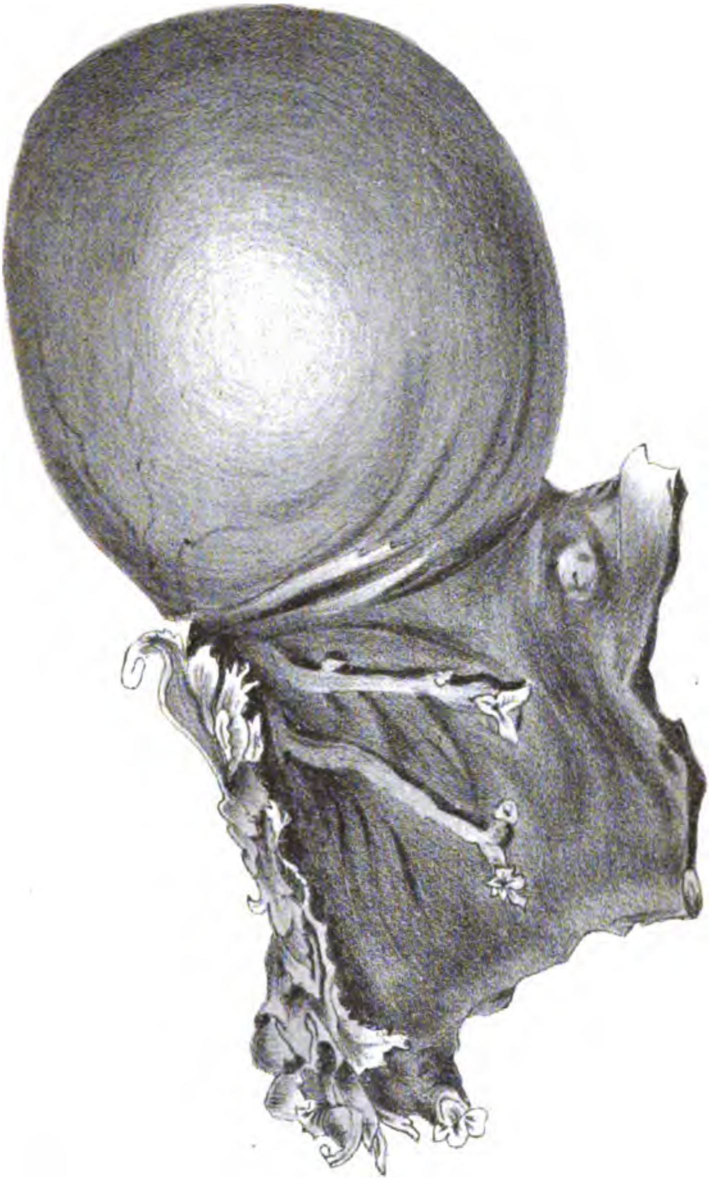


Multiple Fallopian Tubes and Parovarian Cyst.

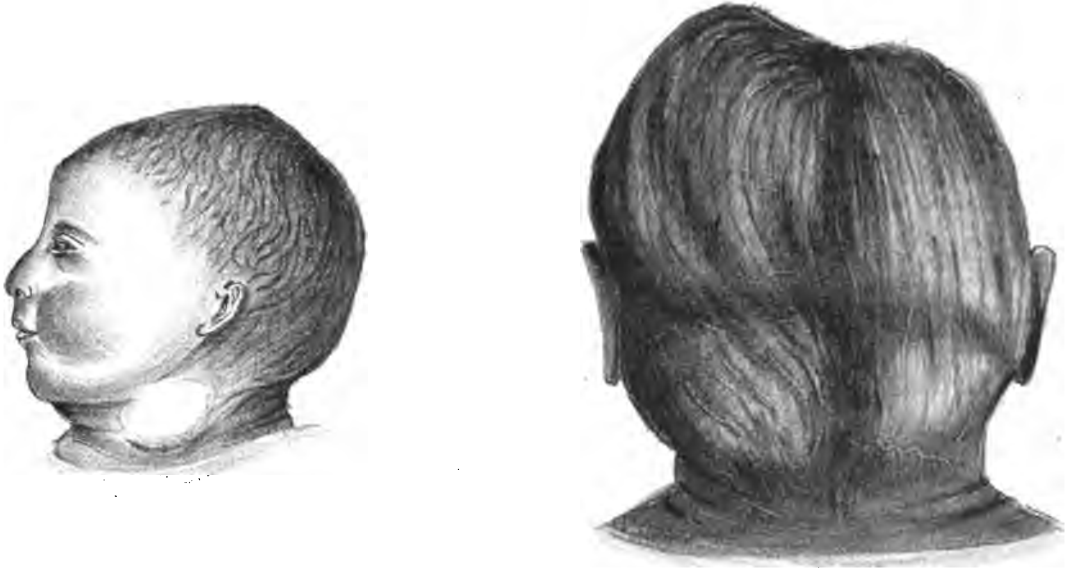
and intestinal adhesions separated, disclosing on the left side a considerable mass of a greyish-green colour. On the right side the finger could be passed into Douglas' space, which contained fluid blood, and the right ovary was converted into a cyst the size of a thrush's egg. The uterus was incorporated with posterior surface of mass situated on the left side, and in trying to lift the latter out of the pelvis, the cyst wall broke in several places, giving exit to a large amount of black coagula. I tied and removed as much as possible of the cyst wall, also the ovarian cyst on right side, and washed out cœlom before closing it. The cyst wall in this instance was undoubtedly the posterior layer of broad ligament; in other words, the extravasation was partially, at any rate, sub-peritoneo-pelvic.

Case VI.—M. R., aged thirty-nine, 1-para, two years since last pregnancy. During the past few weeks patient has had intermittent bleeding, sometimes considerable in amount, attended with pain in lower belly, continuous and sometimes severe. On admission patient complained of weakness, temperature 100.8°; pulse, 115. The os is gaping, uterus enlarged, pushed to the left. Lying on the posterior fornix, extending some distance to the right side, and half way to umbilicus, and a little to the left of mesian line, there is a mass of elastic consistence, which, in places, is tender to the touch. This mass is distinctly larger than it was when the patient was examined two days before admission. It is closely applied to the uterus on the posterior and lateral aspects. Operation, Oct. 5. Parietal peritoneum distinguished with much difficulty, owing to the presence of a layer of blood-clot, immediately underneath, and so adherent to intestines that it could be detached only in places. The uterus was concealed by a large quantity of coagula, and when these were being removed I found an embryo, one and a half inches in length, which had escaped through a rupture in the right tube. Its uterine end was secured, and then the remainder of the tube was tied and removed. The cæcum was adherent to broad ligament, close to outer side of sac. Handfuls of clots were then removed from Douglas' space and elsewhere; the cœlom was douched, the fluid sponged out, and the wound closed. As no radial pulse could be felt, I injected 25 ounces of saline solution, which restored the pulse in the wrist. The patient had no sickness after the operation, and convalescence was uninterrupted.

INVERSION OF UTERUS.

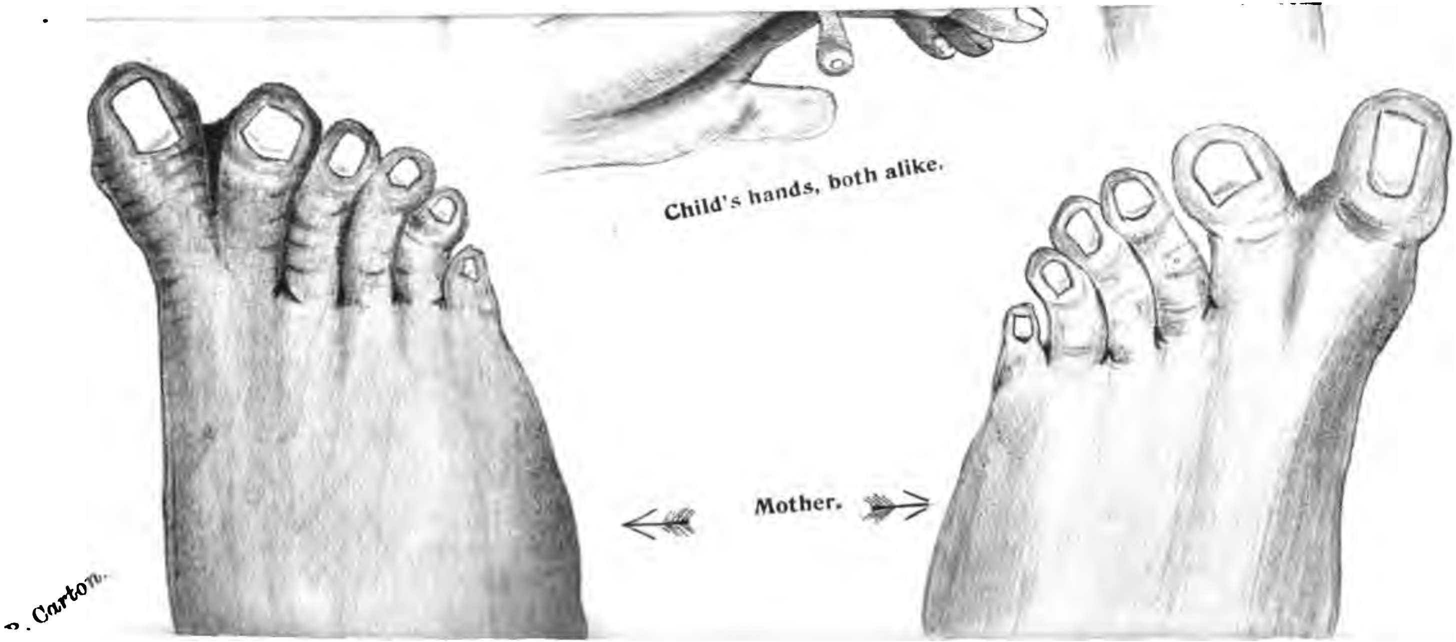
CASE I.—*Inversion caused by two Fibroids growing from Fundus.*—The patient, K. M., unmarried, aged forty, for three years had suffered from menorrhagia, almost continuous, though variable in amount. Much pain in back and belly was also experienced, aggravated during defæcation, and accompanied by the sensation of a swelling in the vagina. On the 13th of February a large mass, nearly six inches in length, was suddenly extruded from the vagina, and micturition became impossible. Two days later, on her admission to the Rotunda, we found this to be the uterus completely inverted—the endometrium already showing several patches of superficial necrosis, and two fibroids, each the size of a large walnut, projecting from the fundus. The patient's aspect, as well as her pulse and temperature, showed plainly that a dangerous degree of sepsis was already present; while the local conditions were such as to render operative measures full of risk. I determined, in the first instance, to try the effect of liberal diet and stimulants internally; externally antiseptics of various kinds were applied, and a tardy improvement in the condition of the endometrium followed their use. Retention of urine often occurred, requiring the use of the catheter, and a copious offensive vaginal discharge added much to the risk of this proceeding. When some weeks had elapsed sufficient local improvement was observable to warrant an attempt for the removal of the uterus, which was carried out as follows:—I encircled the organ at a point where the endometrium was healthy with a few turns of an elastic ligature, and at a short distance below this made a circular amputation in such manner that the cut surface was somewhat concave. The incision passed through the cervix a little below the os internum. Numerous silk ligatures were then passed; first, one running in purse-string fashion around the canal, and then several in a radiating direction from within outwards. When the elastic ligature was loosened several other bleeding points, including a couple of vessels, were separately tied. Convalescence, as might be expected, was slow, but entirely satisfactory; and I observed with much interest a few weeks afterwards that the remaining portion of cervix became re-inverted, allowing the original os externum again to appear in the vagina.

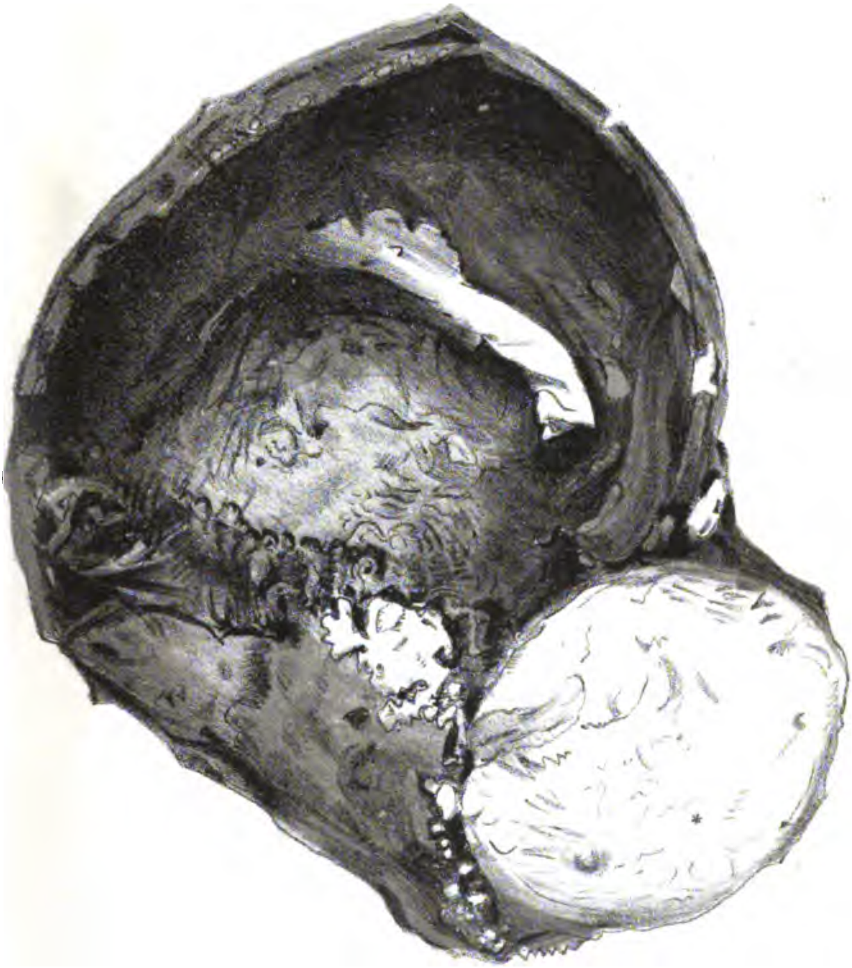
It will be remembered that in the cases reported by the late Dr. Denham, and by Spiegelberg, the same incident was observed.



Cephalhæmatomata.

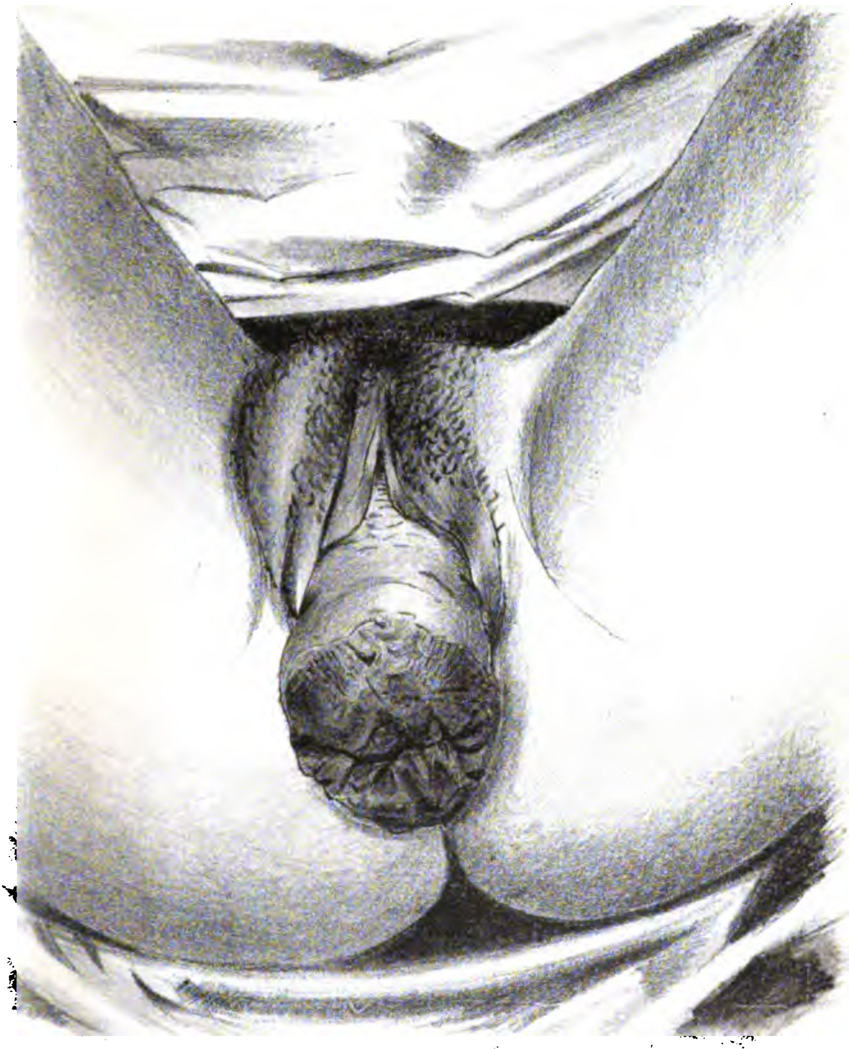
id.





* Fibroid.

Missed labour in Fibroid Uterus. *See* Case.



Prolapse of Gravid Uterus.

In the *Dublin Medical Journal*, 1866, Dr. Denham writes :—"A primipara, aged twenty-three, suffered inversion from pulling on the cord and pressure on the fundus uteri. She was admitted to the Hospital eleven days afterwards. Under steady pressure the uterus gradually diminished, and was felt to yield, so that the fundus alone remained unreduced; no amount of force, compatible with the safety of the organ, could enable us to complete the operation. On the third morning we were agreeably surprised to find that the fundus had spontaneously returned." In Spiegelberg's case efforts at replacement were tried with partial success, but were interrupted by an attack of diarrhœa. A fortnight later examination showed that in the interval complete reduction had taken place.

Case II.—*Inversion, complicating Childbed, in a Case where Manual Removal of the Placenta had been found necessary.*—In April, 1903, a primipara, aged twenty-five, was admitted to the Auxiliary Ward suffering from metrorrhagia. Her pregnancy had terminated somewhat precipitately five weeks previously, and a midwife, who was in attendance, had removed the placenta manually. A physician arrived shortly afterwards, and finding the uterus inverted, replaced it, as he believed. At the time of her admission to Hospital her anæmic aspect testified to the loss of blood in considerable quantity, and the local signs and conditions rendered the diagnosis of inversion a very easy matter. I specially noticed that, so complete was the inversion, only a very narrow rim of cervix could be felt. When her strength had been somewhat restored by rest, food and tonics, I proceeded to attempt reposition in the manner which proved successful in a similar case narrated in a former Report. Four bullet forceps were inserted at equi-distant points in the very narrow rim of cervix, and my repositor was applied to the fundus; at the same time an assistant kept a hand firmly placed on the parietes. Our efforts for a few minutes did not appear to avail much, especially as a bullet forceps now and then lost its hold on the slender portion of cervix which was within reach, and its re-adjustment was sometimes difficult; but steady perseverance in the details already mentioned, aided by the application of the fingers to the sides of the uterus, effected the complete replacement of the fundus in about twenty minutes. A gauze drain was placed in the uterine cavity and left there till next day. Convalescence was in every respect satisfactory, and on measuring the uterus just before patient left the Hospital the cavity was something less than two and a half inches.

These two cases may be profitably considered in connection with two similar ones recorded in a former Report; like them they illustrate the two commonest causes of this most serious uterine displacement—viz., the presence of a polypus springing from the fundus and injudicious management of the third stage. In the former case the propriety of amputating the organ can seldom be questioned, though the proceeding is by no means free from risk, and one of my patients had considerable pyrexia for some days. In the latter case the possibility of replacement should be seriously considered; and the number and variety of operations and mechanical devices which have been described show how much attention has been given to the matter. In my opinion sufficient attention has not been given to the importance of fixing the cervix before applying pressure to the fundus, and our success in the above-noted cases appeared to be mainly attributable to this detail.

EXPLORATORY LAPAROTOMY.

Case I.—J. B., aged thirty-two. Patient states that at one period each menstruation was attended by the passage of a "fleshy membrane," and that this continued for three years and then ceased. Very numerous firm adhesions, concealing uterus and left appendages; right tube much thickened and inseparably united with cystic ovary on same side. Owing to firmness of adhesions removal was not attempted. Patient improved.

Case II.—M. C., aged twenty-three, suffering with fixed retroversion. Slightest attempt to move uterus followed by severe pain. Some hours after examination rigors, vomiting and elevation of temperature; laparotomy deemed advisable. Ample evidence of recent peritonitis; flaky lymph at various points on intestine; also on fundus, to which right tube was adherent by abdominal end. Cœlom washed out; uterus brought into position and wound closed; perfect convalescence; uterus in normal position.

Case III.—K. D., aged fifty. Patient suffering from offensive watery, discoloured discharge; much pain. Uterus enlarged and irregular; cavity four and a half inches. Curette removed large quantity of soft, greyish matter, attended with free bleeding. Laparotomy revealed the presence, on the left side, of a large deep-red tumour, lying beside uterus, arising by a broad base from pelvic brim, and involving sigmoid flexure. Inoperable. Some months subsequently patient writes saying she is troubled with flatulence, but not making any other complaint.

Case IV.—M. B., aged forty-four. Fibroid uterus reaching nearly to navel. Incision in usual position, led directly into bladder, which extended upwards nearly as high as navel. Opening in bladder closed with catgut, and parietal incision in usual manner with silkworm gut. Operation followed by relief to bladder trouble, which patient had before experienced.

Case V.—Patient, S. F., aged twenty-four, admitted moribund. History of obscure typhoid symptoms lasting for some days before admission. Incision gave exit to fœtid gas and quarts of bowel matter. Extraordinary improvement for three days, when patient suddenly expired.

Case VI.—S. O'B., aged thirty-six, nullipara, admitted on account of a small pelvic tumour lying close to uterus, but, I think, more probably ovarian than uterine. Patient had, on more than one occasion, suffered from severe attacks of vomiting, but at time of admission did not appear ill, and is well nourished. On Nov. 4 patient had several attacks of severe pain followed by bilious vomiting. Pain referred to epigastrium and also to the right side, extending back towards scapula. On the 6th her condition was so much worse, owing to continued vomiting and pain, that I performed an exploratory laparotomy in the epigastrium. The tissues in abdominal wall were deeply bile-stained, and the viscera so universally adherent that exploration was most difficult. In separating deep adhesions blood was found extravasated in considerable quantity; the head of the pancreas was indurated and much enlarged. No perforation of stomach or gall-bladder could be found. The patient died twelve hours after the operation.

ABDOMINAL FIXATION.

Case I.—E. B., aged thirty-two; childless; marked hypertrophy of cervix, which protruded from vulva. Uterine body small. Circular amputation of cervix, followed by abdominal fixation.

Case II.—A. C., aged eighty. Complete procidentia uteri, accompanying an ovarian cyst. When ovariotomy was performed, abdominal fixation was also secured by passing two of the abdominal stitches through anterior surface of uterus.

SPLENIC ABSCESS.

E. M., aged twenty-four, 1-para, admitted July, 1903; had been confined ten weeks previously, and was in bed for fifteen days, probably owing to some pyrexia. When out walking about four weeks after confinement she was seized with severe abdominal pain, and remained very ill for some weeks, when she was sent to the Rotunda from Athlone. Her prostration was such that it was feared she would not survive the journey to Dublin. Her pulse was so feeble that I could not count it; extreme emaciation had occurred; the belly manifestly contained fluid, encysted, situated between epigastrium and navel; lower down, the belly is flat, and two doughy swellings are noticeable. I regarded the condition as due to tubercular peritonitis. Under treatment, chiefly symptomatic, slow but steady improvement was observable, and coincident with this all evidence of fluid in the belly disappeared. After a few weeks, however, the temperature, which had become normal, began to show marked evening elevation, and some rigidity of the abdominal wall below the navel being observable, I determined to make an exploratory incision in this region. The parietes were very tense and vascular, and peritoneum undistinguishable. Presently very stinking pus began to flow in considerable quantity from a cyst, or space shut in by very thin walls. This was washed out, and a gauze drain inserted. Slow but satisfactory convalescence ensued.

It will be seen that, though this trouble originated in or shortly after childbed, the situation of the pus and some other points in the history suggest that there was suppuration in a pancreatic cyst.

ART. VII.—*The Diagnosis of Epidemic Cerebro-spinal Meningitis.*[a] By R. DEANE SWEETING, M.D. (Dublin); M.A. (Oxon.); D.P.H. (Camb.); Senior Medical Inspector of the English Local Government Board.

FEW, if any other, affections can vie with the above in the number of its synonyms. The appellations of this disease constitute almost a separate nosology. But their very number and variety are useful as giving a clue to diagnosis. Before proceeding to set these out and to comment upon them, it will be well to recall the classical description of the disease given by the late Netten Radcliffe, viz.:—

"An acute epidemic disease, characterised by profound disturbance of the cerebral nervous system, indicated at the onset by shivering, intense headache, or vertigo, or both, and persistent vomiting; subsequently by delirium, often violent, alternating in somnolence or a state of apathy or stupor; an acutely painful condition with spasm, sometimes tetanoid, of certain groups of muscles, especially the posterior muscles of the neck, occasioning retraction of the head and an increased sensitiveness of the surface of the body. Throughout the disease there is marked depression of the vital powers, not infrequently collapse, and in its course an eruption of vesicles, petechial or purpuric spots, or mottling of the skin is apt to occur. If the disease tends to recovery the symptoms gradually subside without any critical phenomena, and convalescence is protracted; if to a fatal termination, death is almost invariably preceded by coma. After death the enveloping membranes of the brain and spinal cord are found in a morbid state, of which the most notable signs are engorgement of the blood-vessels, usually excessive, and an effusion of sero-purulent matter in the meshes of the pia-mater and beneath the arachnoid" (Russell Reynolds' System of Medicine).

The following are the chief synonyms of the disease in question:—

(1) Epidemic meningitis, (2) epidemic brain fever,

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[a] A Thesis read for the degree of Doctor of Medicine in the University of Dublin, June 29, 1904.

(3) epidemic encephalitis, (4) epidemic hydrocephalus—the above are used when the meningeal symptoms are prominent; (5) spinal fever, (6) cerebro-spinal fever, (7) cerebro-spinal arachnitis, (8) epidemic meningo-myelitis—these terms are used for the disease when spinal symptoms predominate; (9) cerebral typhus, (10) cerebro-spinal typhus, (11) sinking typhus—these, of course, suggest typhus fever, particularly of the fulminant type, which is accompanied with rapid prostration; (12) purpuric fever, (13) nervo-purpuric fever, (14) purpura maligna, (15) purpura contagiosa, (16) infectious purpura, (17) purple fever, (18) malignant purple fever, (19) spotted fever and purples, (20) malignant fever and purples—these synonyms naturally point to purpura hæmorrhagica, though some authors regard (19) and (20) as rather suggesting typhus fever, and others as indicating a febrile form of scurvy. It is noteworthy that the Irish epidemic of 1866-7, which was undoubtedly epidemic cerebro-spinal meningitis, was locally called "purples."

Other, but less common, *soubriquets* of the affection under notice are:—(*a*) "Stiff-neck fever," (*b*) "epidemic neck cramp," both due to the symptoms of neck pain and of stiff-neck being urgent; and (*c*) "herpetic fever," from the presence of a copious eruption of herpes labialis.

It will have been gathered from the above-recited nomenclature of the disease under review that it is commonly mistaken for typhus and purpura hæmorrhagica. From the former it may be distinguished by the absence of mottling of the skin antecedent to the appearance of the petechial rash, and by the greater predominance of nervous symptoms. But diagnosis is sometimes very difficult when typhus is complicated with acute simple meningitis. From purpura hæmorrhagica it may be differentiated by the presence of marked nervous symptoms, and by the high fever accompanying the disease. But these two diseases by no means exhaust the list of affections with which epidemic cerebro-spinal meningitis may be confounded.

Before attempting to frame such a list, and endeavouring to point out how they may be diagnosticated from the disease in question, it will be well to refer to recent accounts of the symptomatology of certain anomalous illnesses recorded in different parts of England, which were suspicious of cerebro-spinal meningitis. Dr. Bruce Low, of the Local Government Board, has minutely recorded this in his reports on outbreaks at Raunds and Heyford in Northamptonshire, in different parts of the Eastern Counties, and at Laxfield (*See* Reports of the Medical Officer of the Local Government Board for 1890, 1891, and 1894). The following is a condensed report of the symptoms observed in the Raunds cases, where the disease appeared to resemble pneumonia:—"Vomiting, drowsiness, convulsions, hot skin, flushed face, hurried breathing, cough, screaming, squinting, herpes of the lips, jaundice, diarrhœa, rigor in some cases, pain in head, throat, and side." Symptoms pointing to meningitis included—"Delirium, fits of screaming, squinting, retraction of the head, convulsions, and coma."

At Heyford the symptoms approached nearer to the conception of epidemic cerebro-spinal meningitis, though in some respects they resembled those of pneumonia. They included:—"Vomiting, drowsiness, cough, sore-throat, flushing of the face, fever, prostration, shortness of breath, abdominal hyperæsthesia, stiff neck, retraction of head." The symptoms especially suggestive were:—"Convulsions, blindness, retraction of head at right angles to spine, squinting, and paralysis of arm and leg on one side."

Dr. Bruce Low's cases in the Eastern Counties were much similar in regard of symptoms to those in Northamptonshire, and were variously certified as "fever," "tubercular meningitis," and "convulsions."

The Laxfield cases, too, closely resembled those in the Raunds outbreak, and seemed akin to pneumonia, with nervous symptoms. But they also had some resemblance to influenza and Rötheln.

Still later, in 1903, Dr. Farrar, of the Local Government Board, has reported on certain suspicious illnesses in Shropshire, in which the pneumonic type largely prevailed, but in which a diagnosis of abdominal influenza could not be excluded. The following symptoms were recorded in some of Dr. Farrar's cases—viz., "Acute febrile onset, headache, vomiting, delirium, furred tongue, constipation, marked symptoms of pneumonia." In one case there was opisthotonos, in another spastic paralysis of the hands and marked hyperæsthesia, in another twitching.

Another case of Dr. Farrar's showed greater resemblance to epidemic cerebro-spinal meningitis—viz., "Acute febrile onset, vomiting, headache, dizziness, delirium, prostration, hyperæsthesia, herpes labialis, and marked sordes of tongue and lips."

From the account of the above cases it is clear that the chief difficulty of diagnosis is from pneumonia (usually lobar) and influenza. From lobar pneumonia diagnosis may be made by absence of physical signs and less rapidity of respiration. But the latter is not an infallible sign, for there may be urgent dyspnœa in epidemic cerebro-spinal meningitis. And this disease and lobar pneumonia may be concurrent, and bacteriologically the *Pneumococcus lanceolatus* of Fränkel may be present in undoubted cases as a secondary or mixed infection. So that diagnosis from pneumonia is by no means easy. From influenza the disease under discussion may be distinguished by the fact that in influenza there is never any rigidity or retraction of the head; and that whilst erythematous rashes are common to both diseases, herpetic and purpuric rashes are rare in influenza, and pemphigoid bullæ never present in that disease. Further, *Pfeiffer's bacillus* is morphologically and culturally quite distinct from the organism to be mentioned later as associated with epidemic cerebro-spinal meningitis. The above diseases—viz., typhus fever, purpura hæmorrhagica, lobar pneumonia, and influenza—are the most commonly confounded with the subject of this thesis, and the most difficult to diagnosticate from it. But the affection is also not infrequently confused with:—

(*a*) *Enteric fever*, from which it is distinguished by its sudden onset, by the absence of the lenticular rose-spots of enteric, as well as the course of the temperature. If Eberth's bacillus can be identified the diagnosis is, of course, quite facile; but in its absence the agglutination of blood-serum test of Widal will sufficiently serve for diagnosis.

(*b*) *Idiopathic Tetanus.*—There is seldom marked opisthotonos in epidemic cerebro-spinal meningitis, whilst in tetanus there are seldom any rashes, certainly none of a purpuric character. But in any event the demonstration of Kitasato's bacillus will serve to establish the diagnosis.

(*c*) The affection under discussion is sometimes mistaken for malignant forms of some of the infectious diseases, as small-pox, scarlet fever, and measles, chiefly from a resemblance of the purpuric rash to dark forms of rashes of those diseases. Elucidation of the history of the onset and course of the disease will usually serve to distinguish them. It has even been confused with Rötheln, when the rash of this malady is abnormally dusky, as sometimes obtains. Here, again, the history of the illness, as well as the nature and position of the inflamed glands associated with the disease, will be sufficient to enable distinction to be made.

(*d*) Likewise, epidemic cerebro-spinal meningitis may be confounded with suppurative meningitis after certain acute infectious disorders, such as measles and scarlet fever, or from local infection in ear disease. The sudden onset and the character of the rashes will serve to distinguish it from them, and there will seldom be a primary focus of suppuration—*e.g.*, acute lobar pneumonia.

(*e*) It may also be confused with tubercular meningitis, or the two infections may be concurrent. The physical signs in the chest may guide towards diagnosis; but a surer indication will be the presence of tubercle bacilli. Some authors ascribe importance to the absence of opisthotonos in tubercular meningitis, but this is by no means common in epidemic cerebro-spinal meningitis.

(*f*) *Sunstroke* (*insolatio*) has now and again been mistaken for the malady in question, and in turn the disease has been termed a "violent cold." But the diagnosis here is not difficult.

Another sign, that of Kernig, has been relied on by many authors as symptomatic of the malady under review. "Kernig's sign" is obtained by first of all flexing the thigh of a sitting patient on the trunk, (or placing the thigh of a recumbent patient at right angles to the trunk).

When the leg is suddenly extended, this is actively resisted by the strong contraction of the flexor muscles of the leg on the thigh.

"Kernig's sign" is, however, not to be altogether relied upon, taken alone, as distinctive of epidemic cerebro-spinal meningitis, as it is probably equally common to other forms of spinal meningitis.

It will have been noticed in the foregoing recital of the clinical diagnosis of this disease, not only that this is extremely difficult in some cases (notably in those of influenza and lobar pneumonia), but that bacteriological diagnosis has often to be resorted to. This, however, is chiefly in a negative sense. Thus, the absence of the organisms associated with the names of Pfeiffer, Eberth, Kitasato, and Fränkel, as well as of the tubercle bacillus, suggests negation of the diagnosis of influenza, enteric fever, tetanus, pneumonia, and tuberculosis. This leads to the consideration of a positive bacteriological sign, which is of the utmost value, and constitutes perhaps the only reliable test under all circumstances. This is the demonstration of Weichselbaum's *Diplococcus intracellularis meningitidis* by lumbar puncture. The subarachnoid space is punctured between the laminæ of the third and fourth lumbar vertebræ, and a variable quantity, ranging from a few drops to several (4 or 5) drachms, of spinal fluid are removed for examination. The organism discovered by Weichselbaum in 1887, confirmed by Jaeger in 1895, and first found during life by Hübner by the method of lumbar puncture introduced by Quincke, is found in the spinal fluid during life, as well as in the exudations of the surface of the brain and spinal cord and in the fluid of the ventricles after death.

It appears as a rounded or oval diplococcus in the interior of the leucocytes present in the above tissues. It closely resembles the gonococcus. It grows best on agar-agar and on Löffler's blood-serum, forming a thin layer of transparent colonies. Individual cultures soon die out, but growth of the diplococcus is maintained in subcultures. The organism is not pathogenic to rabbits, mice, and guinea-pigs, but it is pathogenic to goats, who die rapidly after its injection, and from whose tissues the organism can be recovered.

In acute cases of epidemic cerebro-spinal meningitis the *Diplococcus intracellularis* is present in large numbers at first, but this rapidly dies out and disappears after the first week.

The spinal fluid during life or the morbid exudations after death may contain, in addition to Weichselbaum's diplococcus, the "*Pneumococcus lanceolatus*" of Fränkel, as well as tubercle bacilli, or ordinary streptococci of inflammation; but these organisms can only be considered indications of concurrent affections, and the demonstration of Weichselbaum's diplococcus by the above-mentioned cultural and experimental signs may be regarded as establishing the diagnosis of epidemic cerebro-spinal meningitis.

There is, however, another diplococcus found in the simple basic meningitis of children (infants mostly) which is regarded by Stiff and other authorities as a modified form of Weichselbaum's diplococcus, distinguished by its non-pathogenicity for animals.

It is significant that the organism in question is found *par excellence* in the nasal secretions. Hence, the probable mode of entry to the meninges is by the ethmoidal cells. The "pneumococcal meningitis" that Washbourn found in 1893 among the Kaffirs in South Africa, and in which the entrance of the disease was undoubtedly through the nasal cavity, is more than suspicious of epidemic cerebro-spinal meningitis.

The supervention of tonsillitis and of pneumonia in the later stages of the disease point to extension of the organism from the nasal cavity to the tonsils and air-passages. Also, the well-established instances of the spread of the disease by means of infected handkerchiefs and dried sputa point to the nasal cavity and air passages as primary seats of the infectivity of the affection under consideration.

To briefly sum up the subject-matter of the above thesis, it may be said that the diseases with which epidemic cerebro-spinal meningitis is most frequently confounded are typhus, purpura, lobar pneumonia, and influenza, and that diagnosis from the two last is sometimes exceedingly difficult. We have seen that clinical differentiation of the disease is not always easy, and that negative bacteriological signs have often to be impressed to support diagnosis. Further, that "Kernig's sign," though useful, is not always to be depended upon, unless taken in conjunction with other indications. But that the demonstration of Weichselbaum's diplococcus, obtained during life by the method of lumbar puncture, is the only absolutely infallible sign. If supported also by "Kernig's sign" the diagnosis is strengthened. And more so if, experimentally, the organism is found to be pathogenic to the goat.

If, therefore, the medical observer should find himself puzzled by cases of apparently anomalous illness, affecting chiefly children and personally communicable, cases which now suggest typhus, now influenza, and which may have purpuric spots or pneumonic symptoms, the only reliable means of accurate diagnosis is the examination of the spinal fluid during life by a competent bacteriologist.

ART. VIII.—*Notes on a Year's Asylum Work.*[a] By W. R. DAWSON, M.D., F.R.C.P.I.; Medical Superintendent, Farnham House, Finglas, Co. Dublin.

IN the following notes some of the more interesting points arising in the practice of the year ending March 31st, 1904, are briefly touched upon.

Causation.—Ascertained hereditary diathesis played a less important part than in previous years in the causation of the cases admitted, in only 50 per cent. of which it was known to be present, as against 78 and 73 per cent., respectively, for the last two years. But in addition to this there was one case in which the point was not ascertained, while in another there was a tubercular heredity. These have not been counted. An epileptic voluntary boarder had a collateral heredity of epilepsy. On the other hand, the cases in which neuropathic diathesis was the leading factor are nearly equal in numbers to last year, representing about 35.7 per cent. of the whole; while wear and tear, mental and physical, account for nearly 42.9 per cent., and toxic influences for 21.4 per cent. A certain amount of overlapping of causes took place as usual; but, upon the whole, the toxic factor was less prominent than in previous years—indeed, it is doubtful if one toxic case, supposed to be due to influenza, which is included in the above numbers, can rightly have this origin ascribed to it. On the other hand, some would doubtless place the case of epilepsy under this heading, not only because epilepsy is possibly due to a toxæmia, but because in this particular instance the disease arose after a severe attack of measles in childhood. It will be seen from the above that the prevalent factor is again wear and tear.

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[a] Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, May 13, 1904.

Forms of Mental Disease.—An unusual feature of the admissions was the very large proportion of cases set down as mania, as there seems to be an opinion abroad that this form of insanity is not now so frequent as formerly. No less than 50 per cent. of the cases admitted—over 63 per cent. of the certified admissions—might be so designated, though less than half of these were cases of ordinary uncomplicated mania. Somewhat less than one-half recovered rapidly during the year, and two cases of mania from the previous year also were discharged, one recovered, the other—a hopeless case, it is feared—improved somewhat. Melancholia accounted for a further 2 per cent. (nearly) of the admissions, and the remainder were cases of dementia and paranoia. A voluntary boarder, who suffered from epilepsy, was not insane, but somewhat childish for his years.

Acute Attacks in Chronic Mental Disease.—Another feature of the year was the number of cases in which acute psychosis occurred in the course of more chronic mental malady. Of these, one case of mania appears to have been somewhat imbecile always.

Case I.—She was a girl of twenty-seven, with bad heredity, admitted early in the year, and seems to have displayed from childhood many of the stigmata of a neuropathic diathesis (eccentricity, excitability, and impulsiveness, want of persistence in anything she took up, &c.). She was able to live at home, however, until a love affair upset her mental balance, when she made persistent efforts to run away. This, and her total inability to appreciate social conventions, led to her being sent here. After about five months she had so far improved that it was decided to try her outside, but she soon succeeded in running away again (on one occasion attired only in a quilt over her night-dress), and had to be sent back, when she showed a good deal of excitement. Since then she has quieted down, but it is feared that her thoughts still run continuously on her engagement (notwithstanding a somewhat brutal letter from her former *fiancé*), and that it will not again be possible to discharge her.

One point about the case is that she possesses considerable musical ability, a talent by no means incompatible with general mental weakness.

The following case is in some respects similar, though differing completely in others:—

CASE II.—A woman of forty-seven, with bad heredity, admitted as a voluntary boarder last summer. As a child she had been peculiar, and at eighteen she had an attack of insanity, lasting about a year. Since then she appears to have been hovering on the verge of insanity, and sometimes over it, and to have proved a perfect thorn in the side of her relatives owing to her vagaries. Her physical health was excellent, but she considered herself nervously "run down," and detailed a number of more or less delusional experiences. She proved an unpleasant inmate, being selfish, discontented and delusional, with mental weakness. After about two months she left, but soon returned, and got on, on the whole, better until about the beginning of 1904. Her delusions then became more prominent, she grew very erotic, and at the same time suspicious, and finally was so excited that, with the consent of her relatives, she was certified last January. Since then she has been in a state of acute mania; but, as a rule, her delusions are of an unpleasant type. She has hallucinations of sight and hearing, and during the first days of the attack complained of a constant smell of blood.

Dementia Præcox.—It is not altogether improbable that the last case is one which German writers would class as an example of dementia præcox. The following, however, up to a certain point showed an almost typical symptomatology, and only the future course of the case can determine whether it is a true example or not:—

Case III.—The . patient, a young man aged twenty-one, student, was admitted last February. There was some neuropathic heredity, but not very intense, and also some family tendency to tuberculosis. He was well-developed, muscular and intelligent looking, and when at school was an athlete, but gave this up on leaving and had worked absurdly hard—12 hours a day at times—at books up to about two years before. He then broke down at an important examination, but before this he suffered from temporal neuralgia, *muscæ volitantes*, and loss of conscious affection for his relatives, all of which persisted ever since. He continued to do a good deal of reading and other intellectual work, and held a post for a time which exposed him to high-pressure religious emotionalism. Last autumn he began to suffer from "hysterical" attacks, laughing and crying. By the advice of Sir W. Gowers, he then tried farm work for some months, but without getting rid of the feeling of mental dulness which oppressed him, and which, according to himself, rendered him incapable of reading or remembering anything, or of following a conversation. He also complained of bodily numbness. In January and February he had three mild and short maniacal attacks, and at such times the feeling of "numbness" left him and his memory returned. In the last, just before admission, he was found on the floor in a cruciform attitude. He came voluntarily, and for some weeks seemed to improve, joining heartily in the life of the institution, and playing hockey and other games. The latter had to be partially stopped, however, as he said he felt worse after violent exercise. He continued to suffer from neuralgia from time to time, but sleep and appetite were good, and his general health excellent. The treatment was mainly tonic. About a month after admission his mental state rather suddenly became worse, and his blood-pressure was found to be high. He was put to bed, and as he seemed better there, was kept in bed for a week and fed up. For the first few days he improved. His blood-pressure fell to normal, and sensibility to pain (which was decidedly blunted—that for touch and heat and cold being unaffected) became again acute. Towards the end of the week, however, he began to show signs of delusion, complaining that the noises of the birds seemed to have a symbolic meaning, and later he became somewhat elated. He then developed the delusion that he was dead, and laid himself out accordingly; and when obliged to get up he walked stiffly sometimes and attitudinised. There was a good deal of stupor for some days, varied with hysterical ecstasies, laughing and crying. Finally, about a week later, he suddenly became acutely maniacal and violent, with delusions, sleeplessness and refusal of food, necessitating seclusion and hydropathic treatment.

In this case the heredity was not so bad as is usual in dementia præcox, and it may be that the case is merely one of the insanity of overwork, a much more uncommon occurrence than patients and their friends would have us believe.

Recurrent Cases.—As mentioned in the notes for 1901-2, recurrence is one of the commonest manifestations of hereditary diathesis. It was a feature in the second case just described, and also in several others admitted during the year.

Case IV.—A lady, aged sixty-five, admitted last summer, suffering from acute mania, which varied from a silly elation with constant chattering (chiefly on matrimony and love-making), and interference, to ill-temper and abusiveness. She had been treated here for previous attacks, which seem to have been of the same character, in 1873–75 and 1879–83, since when she had two attacks at home. She is probably permanently weak-minded.

Case V.—Gentleman, aged fifty-three, a man of means and position, whose family relations were unhappy, owing to his misconduct. He had a fall on his head in 1886, and since then has had a large number of maniacal seizures, in which he is tricky, mischievous and inquisitive. The attacks usually last six or seven months. He was brought here temporarily, an attack having come on suddenly when he was on a holiday in Ireland, but he refused to leave, and made a good recovery in about two and a half months, showing only a little reactionary depression before he left.

Cases such as these, even when they do not become permanently demented, are very unlikely to enjoy continued mental health, although the prognosis as regards recovery from any individual attack is usually good. The last case is almost certainly one of true recurrent insanity, and although the patient was not treated in any mental hospital until 1902, it is highly probable that he had many slight previous attacks, and that his lapses from morality should be so explained.

A lady suffering from senile melancholia had had two or three similar attacks within the last ten years, and although she was discharged recovered, there seems, from recent information, to have been some relapse. A case of minor epilepsy which has been alluded to in former reports again developed a short attack of acute insanity during the month of February in the present year, as he had done for the previous two years. The attack was of the same nature as the former ones, but rather less violent, which may or may not be attributable to the fact that he had this time been taking cerebrin for about two months before. It is worth remark as regards this case that since the development of persistent glycosuria, about two years ago, the number of attacks of insanity has increased, while that of the fits has diminished. This case will be alluded to again later.

A case of recurrent mania, of many (over 40) years' duration, which was described in the notes for 1901-2 (Case III.), has shown marked improvement during the past year. On no previous occasion during recent times has her period of comparative sanity been longer than three weeks, but in the spring of 1903 she remained well for three and a half months. It was then found that the period could be still further prolonged by small nightly doses of sulphonal, and the result has been that there was only one attack (of the ordinary character and duration) from June 29th, 1903, to March 31st. That this improvement was due to the sulphonal was shown when any attempt was made to discontinue it.

Insanities of the Periods of Life.—A mild case of simple acute mania, which recovered in less than two months, occurred in a girl in early *adolescence*, but calls for no special remark. Case II. above may, perhaps, be attributed to the approach of the *climacteric*, so far as the present acute attack is concerned, and, if so, it is an example of the somewhat rare climacteric mania. A case of typical climacteric melancholia was also admitted, and is progressing steadily, but very slowly, after the manner of cases of mental disease occurring at this time of life. The only point about it calling for notice is the fact that abcesses of the forehead and of a finger which were present on admission did not result in the mental improvement which is sometimes seen. Two *senile* cases admitted, one of melancholia, and one of dementia with some excitement, call for no special comment here.

Toxic Cases.—A case of paranoia due to alcohol presented one or two points of interest:—

Case VI.—A farmer, aged forty-three; admitted last February. Family history good, so far as known. Was delicate as a boy, and for over 20 years suffered from piles. Was a heavy drinker and smoker for many years, and worked hard at the same time; but had touched neither alcohol nor tobacco for over six months. In the summer of 1902, got two falls, and cut his head on each occasion, immediately after which he began to show suspicion towards his wife, and became changeable and irresolute. His piles were operated on in January last, and after this he developed delusions about electricity, and suspected poison in his food. After coming here the electric phenomena (probably suggested by the electric trams) ceased, and he complained mostly of an irritating oil being put on his clothes and in his food, and squirted upon him, and he was also apprehensive that he was going to be operated on. The electrical delusion, and that about the oil, seem to have some foundation in fact, so far as the sensation is concerned, as he complained of tingling of the skin while still at home. It is worth mentioning that this particular delusion has been very much improved by arsenic, which rather seems to show that the sensation is not entirely hallucinatory. There was no tenderness of skin or muscles on admission, but possibly some chronic degenerative process in the nerves, due to alcohol, may account for the phenomena alluded to. A trace of some reducing substance was present in the urine on admission, but not since.

An old lady, who had been in the institution for many years owing to alcoholic mania and later dementia, and had been tried in a private house on probation, was considered well enough to be discharged, and has got on satisfactorily outside.

The case of *chronic morphinism* described in last year's notes (Case VII.) was discharged last August after some ten months' residence. He has since been doing work outside, and by all accounts, and also judging from his appearance, remains well.

The following case deserves separate description:—

Hallucinatory-confusional Insanity.—Case VII.—The patient was a professional man, aged fifty-eight, with a good heredity. He was hard working and anxious, and suffered from dyspepsia and insomnia. For the latter he had for about 30 years been accustomed to take chloral hydrate, and two years ago, by the advice of a leading medical man, he began to use daily doses of nepenthe on account of what appears to have been mild mucous colitis, a condition which caused him a good deal of pain at times in the lower part of the abdomen. For two years he had been unequal to any continued mental effort, and became irritable, listless and forgetful. Two months before admission he began to act strangely, became restless and delirious at night, and imagined he saw gypsies in his room. He then developed incoherent delusions about his house being undermined and inhabited by improper people, and the like. He was taking large quantities of chloral, nepenthe and alcohol at this time, and his physical state was so bad that it was clear he could not live long unless some change was made. At times, however, he would be fairly sane.

On admission in the middle of November last he expressed a number of delusions of the same kind. He was very thin and muscularly weak; but there did not appear to be any organic disease, except, perhaps, some gastric dilatation and dyspepsia, for which he had to be dieted very carefully. He was unable to remember names accurately, but invented them. He slept very little, and suffered greatly from hallucinations, especially at night, which seemed to have the character of waking nightmares; one in particular was a "sulphur chamber," in which he believed himself to be placed for treatment. He also suffered a good deal from abdominal pain and from constipation. Strychnin, $\frac{1}{40}$ gr., hypodermically was given thrice daily, mild sedatives (of which paraldehyde with bromide provide most effective) at night, and he was encouraged to take open air exercise to a moderate extent. He soon was taking a fair amount of food, and the delusions and hallucinations speedily began to pass away, and were practically gone in a month. He only once or twice got a small dose of nepenthe, and there were no abstinence symptoms, properly so-called. The bowels were attended to, but the pain, which latterly came on at the same hour every night, kept him from sleeping, and it was clear that he would not have self-control enough to keep from chloral. Early in January, however, it was resolved to try quinine salicylate, of which 5 gr. were given every night at bed-time. From this time the pains began to disappear, and were soon completely gone—a most satisfactory result when one remembers that they had resisted all treatment for two years. The patient rapidly gained ground and was discharged recovered in about two and a half months. He has since (except for a very short period) remained well in all respects, and is able to eat food which for years he could not have touched.

The case is, therefore, a typical instance of the "hallucinatory-confusional" variety of insanity which is characteristic of toxic action of all kinds. The cure in so simple a way of so refractory a complaint as mucous colitis (if this was really what was wrong, which seems probable) was, to say the least, highly satisfactory.

Epilepsy.—Two cases of minor epilepsy (with occasional atypical major fits) were under treatment during the year. One, which has been in the institution for some time, has already been alluded to. In July last it was decided to try Poehl's cerebrin, and the effect for about two months both on the number of the fits and the mental state was so excellent that hopes of permanent benefit were excited. It seemed to lose its effect then, however, and though the administration has been since repeated, the same marked results were not again obtained. One very definite effect which the drug always produces, however, is the reduction of the amount of sugar, which the patient has constantly excreted for the past two years, to an infinitesimal quantity.

The second case is more satisfactory:—

Case VIII.—A young man of twenty-four, with some epileptic and neurotic heredity. When thirteen he had severe measles, with convulsions and unconsciousness, and about a year later he developed minor epileptic seizures, which lasted up to admission and for some months later. They were generally slight and short, and latterly he had one or two daily—usually, but not always, in the morning. In the spring of 1903 he had a sharp attack of pleurisy. He appeared to be becoming weak-minded, and was (and is) decidedly youthful for his age. Before admission he was treated with bromipin, alkaline bromides, trinitrin, cerebrin, and dieting, with some improvement of the general state, but not much effect on the fits. Cerebrin was again tried without result after admission, but this was stopped in about six weeks, and potassium bromide with digitalis ordered, which has been kept up practically ever since. (A diet free from meat has also been given.) About a month later the fits began to decrease, and he has had none during the first three months of this year. As there have been long intermissions before, however, it is not quite certain that the attacks may not return.

Physical Disorders and Symptoms.—Two of the cases admitted, both emotionally somewhat depressed, were found to be suffering from organic heart disease, and in eight others there was some cardiac weakness without actual disease. Every case except one had some bodily disease or disorder, which once more emphasises the fact that mental symptoms very seldom go alone. None of the new cases showed albuminuria, however, which was found in three of the old cases, in one to a very serious degree, the albuminometer reading 2, 3, or even 4 per cent. for months. This was the case of an old paranoiac with unpleasant delusions, in whom the disease developed insidiously. All the albuminuric cases were mentally of a depressed type, which accords with our previous experience.

A case of colitis has already been dealt with.

A further study of a number of cases in which *glycosuria* occurred has been made.[a] It includes the results of some observations during the year under review, but these need not be further touched on here.

Blood-pressure was recorded in a few more cases, but was found to be normal, except in that of dementia præcox already described.

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[a] Med. Pres. and Cir. May 4, 1904.

The *general health* of the institution has been good.

Treatment.—No case occurred during the year in which the regular *thyroid* treatment seemed to be indicated, but small doses were given as usual in a case of recurrent melancholia in which the drug had been found of use before. Although it did some good, the results were on the whole not so satisfactory as previously.

Suprarenal administration was tried for some time in Case II. without result.

Cerebrin was given in a case of paranoia with periodic attacks of violence, as suggested by Lion, as well as in the two cases of epilepsy above mentioned. In the former it undoubtedly appeared to do good for a time, but latterly seemed to be losing its effect.

Arsenic was administered freely in four cases, one of which has already been dealt with. In a second, one of stuporose melancholia described last year, it led to the most marked bodily and mental improvement which has taken place since admission, but the latter has unfortunately not been permanent.

Lecithin and *Magnesium Dioxide* were each tried in two cases without much result; but of course the number of cases is too small to be of any value.

Other points of treatment deserving notice have already been dealt with.

ART. IX.—*The X-ray Treatment of Lupus.*[a] By CHARLES MOLYNEUX BENSON, M.D. Univ. Dubl.; X-rayist to the Royal City of Dublin Hospital.

OF the strides that have been made of late years in medicine, the discovery of the X-rays by Professor Röntgen, of Würzburg, in the year 1895, may, perhaps, be considered one of the greatest.

Time alone will prove whether radium—still in its infancy—will oust the X-rays in the treatment of lupus and other diseases.

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[a] A Thesis read for the degree of Doctor of Medicine in the University of Dublin, June 29, 1904.

Various experiments have been made to find out how the X-rays act on the tubercle bacillus, and, on the whole, they seem to have proved unsatisfactory—in that the reports on the subject are conflicting.

Dr. Blaikie, of Edinburgh, reports in the *Lancet* that "the X-rays have no visible action upon the growth of cultures of tubercle bacillus."

Jicinsky reports that the *Bacillus tuberculosis* in sputum in an acid medium was destroyed in forty-eight minutes by X-rays, but that the result was negative when in an alkaline medium. He also found that the *Bacillus tuberculosis* in a flask in acid medium, when exposed to X-rays, was destroyed in fifty minutes; while in alkaline medium the growth was actually accentuated.

Professor Leit, after describing several experiments, sums up by saying:—"Röntgen rays have no direct bactericidal properties."

The weight of evidence, however, undoubtedly proves that the influence of X-rays *per se* on the tubercle bacillus is practically nil; but it is also unquestionable that the organisms in living tissues can be destroyed by exposure to X-rays, and that it must be the tissues themselves, under conditions of activity excited by X-rays, that play the important part in the germicidal process.

The microscopic changes of lupus tissue under X-ray treatment, according to Scholtz, show that the epithelium is in a degenerated homogeneous condition, the cutis thickly infiltrated with round cells and pus cells. The form and typical structure of tubercles disappear and give place to collections of numerous abnormally large giant cells, with mono- or poly-nuclear leucocytes in great numbers. As the treatment continues the giant cells become absorbed, and give place to fine connective tissue, which gradually strengthens into scar.

Grouven describes the healing of lupus as follows:—"Hyperæmia, leading to increased diapedesis of leucocytes, first at periphery of nodules, pressing on into interior, changing into spindle cells and new connective tissue elements. The cells of nodules undergo degeneration and absorption, and are replaced by connective tissue."

In treating cases of lupus with X-rays, besides the full X-ray appliances, a fund of patience is also required. The benefit of X-rays does not come on quickly or suddenly; the treatment has to be carried on sometimes for weeks without any sign of improvement, and then little by little the trouble may seem to be diminishing, and when, to all appearances, on the high road to recovery, a relapse occurs, and the scar tissue, so slowly formed, in a night is broken down, and the weary task must be started again. "Why do these relapses occur?" This is a natural question, but one that is difficult to answer.

In the X-ray Department of the Royal City of Dublin Hospital I use a 10-inch spark coil, wth contact break, worked by 6 cells of 2 volts each. The ampèrage used for treatment cases varies from 2 to 3½. The patient is placed comfortably in a chair with a head-rest, and the healthy parts for some distance round the diseased area are carefully protected by lead foil. The X-ray tube is placed at a distance varying from 4 to 8 inches from the diseased area, and focussed so as to allow the anodal rays to play upon the lupus area. The exposure lasts from 3 to 10 minutes, as the case may require. Before the sitting is given the part is carefully cleaned, and scabs removed whenever possible. After the sitting the part is covered over with lint smeared with ointment. For some time I used plain boric ointment, but I now use equal parts of ichthyol and lanolin.

I will now cite a few cases which I have been treating, pointing out when I have been successful and when I have failed:—

Case I.—Mrs. M., aged forty-one, came under treatment on September 18th, 1903, for lupus vulgaris affecting the nose, chiefly on left ala nasi, and also on face at junction of face with right ala nasi.

This patient has been under treatment for nearly nine months, almost continuously, and during that period has had 154 sittings, varying from 3 to 10 minutes. She has had 8 or 9 relapses, and is still, I regret to say, not cured, though she is improved. The disease has spread upwards, but nearly all the original site of disease is now scar tissue. I believe in her case the relapses were due, to a large extent, to the use of too "hard" a tube. The rays from a "hard" tube are more penetrating than those from a so-called "soft" tube, and are consequently not so well absorbed by the area on which they directly play. To a certain extent they were due to the fact that I did not make the protecting mask large enough so as to allow the X-rays to play sufficiently upon the apparently healthy tissue around the ulcer. Since I have made these alterations progress has been much steadier, but this is a very disheartening case.

Case. II—B. K., a girl, aged twenty-four—lupus vulgaris affecting nose, right eye and ear. This case had been under treatment with Lortet lamp, and on 14th March, 1903, was sent for X-ray treatment of ear. She had 70 sittings, and then had to leave Dublin, improved, but not cured. She returned on 30th December, 1903, and, after 81 sittings, left on June 18th with ear cured. She had also been under treatment with Lortet lamp, and I think there is no question that she derived greater benefit from the X-rays than from the lamp.

Case III.—H. G., a girl, aged sixteen—lupus vulgaris of nose, lips, and hard palate. The disease of nose and lip successfully treated by Lortet lamp, but referred to X-ray Department for treatment of hard palate. This case was given 181 sittings, from Dec. 2nd, 1902, to Aug. 10th, 1903, with one short interval, owing to herpes labialis occurring. She then went home improved, but with one or two patches still visible. On April 5th, 1904, she returned, with disease much advanced, and is still under treatment, having had 38 more sittings. Improvement is very slow. Owing to the distribution of the disease it is exceedingly hard to get the X-rays to play directly upon the diseased area, but I still have great hopes of ultimate success in this case.

There is no doubt that certain forms, or stages I should say, of lupus are best treated by scraping and cauterisation. I have three examples of this in my own experience. All three patients are girls who have lupus of tip of nose of a "warty" type. The first was treated for six months with Lortet lamp without the slightest improvement, and was then sent on for X-ray treatment. Six weeks of X-ray treatment failed to give any result, so she was then scraped and cauterised with Ag NO_3, and iodoform dusted on, followed by (tinct. benz. co.) friar's balsam. This formed a scab, which was allowed to drop off of its own accord. When the scab came off it was found that only 2 or 3 points of disease remained, and she was then given the X-ray sittings. She has now gone home, I believe, cured. The other two cases are almost identical, except that time was not wasted by previous X-ray and lamp treatment, and the results in both cases have been satisfactory.

It is, however, when the mucous membrane of the nose is affected that treatment becomes even harder to carry out. I have one case—a girl, E. M., aged twenty-six—suffering from lupus of the right ala nasi and mucous membrane of the left nostril. She was treated for six months with Lortet lamp, which proved successful for the external portion of diseased area, but was of no avail to the nostril. She came under treatment on October 15th, 1903, and she had exactly 100 sittings, with very poor result.

I have but one patient suffering from lupus erythematosus. She is a girl (M. D.), aged eighteen, who had been suffering for eighteen months before she came under treatment on January 11th, 1904, and she had had up to date 73 sittings. While I was using a "hard" tube I could get no result from treatment, but since using a "soft" tube and rays of weaker intensity she has begun to make headway, and now patches of clear atrophic skin, similar to very thin scar tissue, can clearly be seen in several places.

CORBIN AND STEWART'S HANDBOOK OF PHYSICS AND CHEMISTRY.

MESSRS. J. & A. CHURCHILL announce that a section on *Light* has now been added to the second edition of this work. This subject was originally omitted because, when the new edition was put in hand, it was not included in the curriculum. The new section contains 25 illustrations. The book is still published at 6s. 6d.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Recherches sur la Digestion de la Viande chez le Chien après Ligature des Canaux Pancreatiques. Par EDGARD ZUNZ et LÉOPOLD MAYER. Bruxelles: Hayez. 1904. Pp. 69.

THERE are few of the organs of the body which are at present exciting more interest than the pancreas, and in recent times very numerous works have appeared throwing much light on the physiology and pathology of this gland and on the symptoms which are produced by its diseases. The work before us is a valuable contribution to this branch of medical knowledge. It resumes a great deal of what was already known as to the importance of the pancreatic secretion in digestion, and of many other matters connected with this organ, while it records a series of carefully-made experiments, in which the pancreatic ducts were tied in dogs, and the effects produced on the digestion and on the general condition of the animals were observed. The work is well conceived; the details of the experiments and the results clearly put forward; the text is copiously illustrated by drawings and diagrams; and the whole forms, as we have said, a valuable addition to the literature of the physiology of the pancreas.

The most important conclusions arrived at are thus summed up by the authors :—

1. Among the ferments which intervene in the intestinal digestion of meat in the normal dog, trypsin plays the most important part, but erepsin and the other proteolytic ferments of the small intestine assist the action of trypsin, and, when this is absent, may even replace it more or less completely in the upper part of the small intestine.

2. In the dog, whose pancreatic ducts have been ligatured, the absence of pancreatic juice is more or less completely compensated for by a greater intervention of the gastric juice,

on the one hand, and of erepsin and the other intestinal proteolytic ferments on the other.

3. After ligature of the pancreatic ducts the disintegration of albuminous substances is carried further in the stomach than is the case in the normal animal. In the small intestine the disintegration tends to follow a more uniform course than in the normal dog, being more rapid in the early and less rapid in the later stages of digestion.

4. After ligature of the ducts the absorption (utilisation) of nitrogenous food is generally less complete than in the normal animal.

5. If the pancreatic ducts are divided between two ligatures the operation is followed by atrophy and sclerosis of the pancreas, but glycosuria does not supervene.

6. The animal commonly loses weight more or less rapidly. Some dogs, however, after undergoing this primary loss, regain their initial weight completely, or nearly so.

On the whole, the suppression of the function of the pancreas, so far at least as concerns its external secretion, produces only a slight interference with the general health of the animal, owing to compensatory powers of the organism, of which we see here a remarkable example.

Encyclopædia Medica. Under the General Editorship of CHALMERS WATSON, M.B., M.R.C.P.E. Edinburgh: William Green & Sons. Volumes I.–XIII. 8vo. 1900–1904.

To issue the most complete and the most authoritative reference work in medical literature, including, what had never been previously attempted, both Medicine and Surgery in its scope, was the publishers' aim in founding this work. The task has been completed, and we are satisfied that the ambitious undertaking has been faithfully carried out.

The work will be found to be a useful addition to the library of any medical man, but more especially to those who, for one reason or another, find a difficulty in having at their command a large reference library. Not only are the subjects usually found in text-books of medicine and surgery dealt with, but numerous and exhaustive articles by the best and most competent writers are included on gynæcology, laryngology, ophthalmology, forensic medicine, and hygiene—in fact, all the special branches are represented in its pages.

We have had frequent occasion to refer to some of the articles, and can confidently state that we do not know any work approaching its size in which a reference can be more easily or expeditiously obtained. This happy result is mainly due to two causes :—First, to the index which appears at the head of every article, enabling the reader to turn at once to the page which deals with some special point in the article itself; and, secondly, to the volume which has last appeared—a complete and exhaustive index of the entire work. The necessity for this latter is obvious, and one example will suffice. Under the heading "Insanity" only certain general features of the subject are discussed, while special articles on paranoia, general paralysis, &c., are to be found in other volumes. It is only by referring to the index that the reader can expeditiously ascertain in which volume the subject he is seeking for can be found.

In writing a review of the entire work, it would be impossible to criticise individual articles. We have on previous occasions dealt more particularly with some of the articles. Six hundred subjects have been included in the thirteen volumes, and though all are not of equal merit, the standard maintained throughout has been a high one. The allotment to every subject of a space proportionate to its importance must have been an anxious and difficult task. In a few instances we think that some subjects have been discussed at undue length, while others have hardly met with the consideration they deserved; but they have been only the exceptions, and we are sure this could not have been avoided.

Over one thousand illustrations have been given, and these have added very much to the value of the articles in which they are found. We might especially mention the numerous illustrations and diagrams which appear in the articles on Labour, X-rays, and Swedish Movements.

At the end of many of the more important articles a *résumé* of the literature of the subject is added, and we think it a pity that this was not made a universal practice. It greatly enhances the value of any article, especially to those who are making a study of some particular subject.

At no time, we suppose, in the world's history has the advance in medical and surgical science been so rapid as in the present century, with the result that the book of to-day is out of date to-morrow. To meet this contingency the publishers have very wisely decided to issue supplemental volumes from time to time. We are sure that this decision will meet with universal approval and will be the means of attracting an increased number of subscribers to the work.

We have only to add that, as regards the binding and letterpress, the work has been turned out in a manner that disarms all criticism.

RECENT WORKS ON ANATOMY.

1. *The Human Sternum.* By Andrew Melville Paterson, M.D.; Professor of Anatomy in the University of Liverpool. London: Williams & Norgate. 1904.
2. *An Atlas of Human Anatomy for Students and Physicians.* By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna; assisted by Professor Alois dalla Rosa, M.D. Translated from the third German edition by M. Eden Paul, M.D. Brux.; M.R.C.S.; L.R.C.P. London: Rebman, Ltd.

1. This is an excellent piece of scientific anatomy from the hands of a well-known worker, following somewhat the lines of his admirable monograph on the sacrum, published several years ago. The present work consists of the three Hunterian lectures on the sternum delivered by Professor Paterson before the Royal College of Surgeons, England, in November, 1903. Professor Paterson first accumulated an enormous amount of material—embryonic and adult—which he has examined with the utmost care, and in these lectures he brings the results before us from the embryological, descriptive, teratological, comparative, and morphological points of view. And whilst numerous new and interesting points are brought out under each of these heads the main object of the work is to disprove the

generally accepted view on the morphology of the bone and to substitute for it another view, which, although foreshadowed already by T. J. Parker and Cleland, has been placed upon a more solid basis by the author. In his introduction, Professor Paterson states his case very clearly as follows:—"The commonly accepted view of the morphology of the sternum is that it is made up of 'sternebræ' derived from the costal cartilages; and that each 'sternebra' with a pair of ribs and a vertebra constitutes a typical and complete body segment." "The main thesis which I have to present is that there is insufficient evidence of the origin of the sternum from the rib elements, and, indeed, that the association of sternum with costal cartilages is a secondary one, and that the primary condition of the sternum is one in which it is in association with the shoulder girdle." We may with advantage quote Professor Paterson further—"The bone is laid down, primarily in association with the shoulder girdle, as a median cartilaginous lamina . . . (possibly bilateral . . . connected (later) in a definite and symmetrical way with the cartilages of a certain number of ribs . . . . and subserving the purposes (in different degrees in different animals) of shoulder-girdle movements and of respiration." And again, "Surveying the whole field, the sternum is to be regarded as evolved, developed, and constructed rather in relation to the shoulder-girdle than to the thorax. It primarily subserves the functions of the fore limb, and is secondarily utilised for purposes of respiration. It, therefore, receives the attachment of a variable number of ribs."

Space forbids us to give any further extracts from this most interesting monograph, but we can assure the scientific reader that he will peruse the work with the greatest pleasure and profit, and that he will leave it down with his views as to the morphology of the sternum, if not completely changed, at least severely shaken.

2. To the German and Austrian student an Atlas of Human Anatomy is a necessity, for, as a rule, he uses no manual of practical anatomy in dissecting, and his text-books of

systematic anatomy contain but few illustrations. As a result, he dissects or he "reads up" his work with a systematic text-book (such as Gegenbauer's) and an atlas open before him. Personally, we much prefer the British plan of having dissecting manuals and text-books thoroughly illustrated, and making, as far as possible, an atlas of the dissection.

But to return to the work before us. It will consist, when completed, of six volumes bound in cloth, the price of which is to be three guineas net. Already four parts have been issued, viz.—Part I., Osteology; Part II., Arthrology; Part III., Myology; and Part IV., Splanchnology—all neatly turned out in a pleasing grey cloth binding. When we open the book, however, our first feeling is one of disappointment with the illustrations and letterpress. We cannot help contrasting the atlas with one of the latest works of its kind which has appeared—namely, Professor Spalteholz' "Atlas of Human Anatomy," and if we place two of the volumes in contrast—for instance those on osteology—the striking superiority of the Leipzig atlas will be apparent at a glance, the beautiful pictures in Spalteholz, artistic in appearance, and true to nature, will delight the eye and satisfy the anatomical mind, whilst those in the work before us—reproduced, apparently, by a process method—look unpleasing and entirely wanting in force. They lack strength and individuality, and give one a general impression of dulness.

We do not intend to criticise each volume and each plate separately; we consider it unnecessary. We need only say that the illustrations in the Atlas contrast very unfavourably with those of our English text-books, such as Cunningham's "Systematic Anatomy," Morris, &c., and, indeed, we can hardly see what need a student possessing the above-named anatomy can have of such an atlas as this under review. We do not mean to suggest that the atlas has no merits, for in it we find many good pictures—unfortunately not improved by the method of reproduction—but we cannot see how a student possessing a first-class English text-book can gain anything from the use of the atlas. A work with quarter the number of pictures—crisp, sharp, and striking—well produced, would, in our opinion, be much more useful, and probably much less expensive.

The Prevention of Disease in Armies in the Field. By ROBERT CALDWELL, F.R.C.S., D.P.H.; Major R.A.M.C.; Member late War Office Committee on Field Sanitation in connection with the South African Campaign; late Member Sanitary Committee, Island of St. Helena; Senior Medical Officer, Zululand; Medical Officer in Charge of Isolation Hospital and District Laboratory, First Army Corps. London: Baillière, Tindall & Cox. 1904. Crown 8vo. Pp. viii + 182. 28 Illustrations.

THIS little volume appears at the opportune period when a large proportion of the intellectual and political attention of the civilised world is focussed on the best methods of management of soldiers in the field. The text is divided into six chapters:—I. Introduction; II. Diseases of the Soldier in the Field; III. Administrative Matters affecting the Health of Troops in the Field; IV. Sanitary Measures in the Field; V. The Sanitary Organisation of a Field Force; VI. General Conclusions and Recapitulation. We have space for but a single specimen brick of this compact and solidly-founded scientific structure:—"At Olivier's Hock, a typically healthy spot situated almost on the summit of the Drakensberg, where the water supply was of undoubted purity, where the importation of disease was beyond the limits of reasonable possibility, and where no previous source of contamination of either soil or water could be reasonably supposed to exist, enteric fever appeared in the month of January, 1902. The camp had been occupied for some months before the disease broke out, and although every possible sanitary precaution was most faithfully carried out, the avoidance of soil pollution was a matter of impossibility." This transparent sentence is illustrated from a photograph, which makes the writer's statement as convincing, perhaps, as human testimony well can be. The whole of this booklet deserves the best attention of all who are interested in its subject.

We are very pleased to be able to add in closing—what we did not know when the above sentences were penned—that Major Caldwell's little volume has been worthily crowned by the "Parkes' Memorial Prize." We cordially congratulate the author on its well-merited success!

Practical Medicine. A Monthly Record of the Progress of Medical Science, especially in Diagnosis and Treatment of Disease by Improved Methods and New Remedies, containing valuable Abstracts from the World's Medical Literature. A new and cheap Medical Journal of great practical value and interest to every Medical Man in India who is desirous of keeping abreast of the new discoveries and latest advances in the Science of Medicine. Delhi: The Medico-Scientific Press. Vol. II. No. 2.

THIS little journal—infantile in bulk as in age—cannot, even in the feebleness of its present state of development, fail to interest, as a link of communication with the far-off and mysterious city—of so many romantic associations! It is somewhat startling even to fancy this once so famous capital of Shah Jehan and Aurung-Zebe (many of whose monuments of former glory bear testimony to the grandeur of the period of Hindostanic history in which, under Moslem sway, science, and art, and literature received the most liberal and dignified patronage which is known in the long and chequered annals of their existence) now drop into line with the humble and earnest band of devoted workers who are every day endeavouring to apply the fruits of all scientific investigation to the amelioration of the physical ills of human existence. The walls of Delhi were once one of the special sources of Hindu-Moslem pride; the palace of its Moslem rulers is said by critical connoisseurs to be fully worthy of its famous inscription:—"If there is a heaven on earth it is this—it is this!" the architecture of its public buildings—in sum and in detail—inspired the enthusiasm of even the hard-headed Scottish critic, the accomplished Fergusson; and the luxuriance, at the present day, of its suburban groves and gardens, its richly-stored and crowded bazaars, and its spacious main streets, give it a high place among the centres of the beauty and luxury of the twentieth century We hail with joy the rising of the star of Æsculapius over such a horizon. May it pass towards its zenith with hourly increasing refulgency!

The interest of the Western reader will probably be soonest fixed by the items of Oriental information. There is an article here (pp. 41-42) on:—"Conviction under the Age of Consent Act." It concludes with the following sentence:—"The present law of India, as it affects age, is that a man is said to commit 'violence' when he has sexual intercourse with a female, whether she be wife or mistress, and with or without her consent, when she is under ten years of age."

Are we to have a United Medical Profession? By CHARLES S. MACK, M.D. Published and for sale by the Author, La Porte, Indiana. 1904. Pp. 44.

THE author of this pamphlet believes that a future adjustment must take place between the advocates of "homeopathy" and those of "rational medicine." And in the hope of being of use to those who are desirous of an adjustment of the rival claims, he has offered the suggestions contained in the pages before us. "To adjusters I offer this book as suggestive of a platform upon which he who believes in homeopathy and he who does not believe in it could together work in the field of rational medicine, which is common to them both" (pp. 5-6). To all "adjusters" of both sides, individually and collectively, we commend a calm study of a sentence which occurs on the next page:—"In a case of typhoid fever the outcome, or remote effect, may be health whether the medicine given be homeopathic or be stimulant, or be germicidal, or be chemically antidotal, or be something else; or the outcome may be health when no medicine at all is given." The earnest healer who will but take the trouble to read, mark, learn, and inwardly digest this sentence can hardly fail to recognise that his first duty is to admit the shortcomings of his art, and that he must follow meekly and perseveringly in the footsteps of the Divine Healer, who should be the "Great Exemplar" to all members of our profession. He will remember that a typhoid patient is not necessarily restored to health even by catching and killing every individual bacillus present, nor yet by the administration of billionth doses of the fraction of a milligram of the most approved "similar"—prepared *secundum artem* by the hands of the most skilled votary of the doctrine of *similia similibus curantur!*

Progressive Medicine: a Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. HARE, M.D.; Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Vol. IV. December, 1903. London: Rebman, Ltd. Pp. 444.

IN this volume we find the Digestive Tract treated by Dr. J. C. Hemmeter from a practical as well as a scientific standpoint. Very many of the matters referred to represent the most recent investigations and views. We could have wished, however, that the author had written with a little more conciseness.

Dr. Bloodgood writes on General Surgery. He calls special attention to the importance of estimating the blood pressure, as a means of ascertaining the general condition of a patient, and suggests that blood-pressure charts should be kept in serious cases as a means of determining when stimulation should be employed and what stimulant is best. There is a wood-cut describing the instrument recommended to ascertain the blood-pressure. There is an interesting account of the treatment of general infections by the intra-venous infusions of various antiseptic solutions. There is a well-illustrated chapter on the modern treatment of fractures, which is eminently practical, and a long article on tumours. There are chapters on Diseases of the Genito-Urinary Organs, and on Physiology and Hygiene. The last chapter contains a valuable account of New Remedies and New Uses of Drugs by Dr. Landis.

Bulletin de l'Académie royale de Médecine de Belgique. IV^e Série. Tome XVIII. Nos. 3–4. Séances des 26 Mars et 30 Avril, 1904.

In this number of the proceedings of the Belgian Academy six interesting papers are contained.

In the first, M. Ch. Firket describes a carcinoma of the gall-bladder, in which the cells in many places, instead of having the usual cylindrical shape with tendency to colloid transformation, resembled those of a skin cancer—that is, they were irregular in shape, connected one to another by intercellular bridges, and had in spots undergone horny metamorphosis, with formation of epithelial pearls. He discusses the possible explanation of this metaplasia, and inclines to the idea that it is due to an inflammatory complication.

M. Nuel contributes a paper on sympathetic amblyopia. This condition follows in the uninjured eye on a lesion in the other eye. It supervenes more slowly than does true sympathetic ophthalmia. There are at first no ophthalmoscopic signs. The patient suffers for months from passing dimness of vision, particularly when he uses the eye. The acuteness of vision is slightly impaired, there is slight contraction of the field of vision, a little photophobia, photopsia, and some frontal and temporal headache. These symptoms are relieved by rest, but readily return when the eye is used. After some time there is considerable diminution of acuteness of vision, and considerable contraction of the visual field. The ophthalmoscope then shows slight opacity (trouble) of the disc and some pallor of its temporal half, such as is seen in alcohol-tobacco amblyopia, sometimes a slight dilatation of the retinal veins, and, rarely, some perivasculitis on the papilla. In the early stages the pupil reacts well to light; later on it is somewhat dilated and a little sluggish. The disease may last for months or years, manifesting alternate aggravations and improvements. Complete recovery, without some impairment of vision, very rarely occurs. A stationary condition of more or less pronounced amblyopia may be reached after a long time. Complete blindness, however, does not supervene.

Considerable difficulty is met with in explaining this condition. It is not of microbic nature like true sympathetic ophthalmia, but since it occurs because of the injury of the other eye, it must be called sympathetic. That it is to be considered as a neurosis is more than doubtful. The author hazards the following theory, but admits that it is little more than a hypothesis :—In the injured eye there is an optic neuritis leading to proliferation of the interstitial tissue. If this sclerosis extends to the chiasma, owing to the intimate intrication of the fibres of the two nerves at this point, the fibres of the uninjured nerve will be pressed on and the amblyopia thus caused.

Enucleation of the injured eye has not the same good effect here as in the classical sympathetic ophthalmia. Rest, smoked spectacles, and mercurial frictions are the best treatment. Although the author has not met with cases of simulation, it is possible that amblyopia may be feigned by workmen who are insured or wish to get a pension. It is therefore a condition which should be recognised and understood.

M. F. Putzeys writes a report on the water supply in the different parts of Belgium.

Dr. Camille Moreau describes a case where a considerable portion of the stomach was removed for carcinoma, and in which death took place from pneumonia on the thirteenth day after the operation. This complication, a not infrequent cause of death after such operations, is still unexplained.

A very valuable paper by Dr. Hermann Joris, on the structure and mutual relations of the nerve-cells, occupies the greater part of the number. The writer describes a new and apparently simple method of staining by gold the fibrils which are now universally admitted to traverse the nerve cells. His conclusions are as follow :—

In man (1) *in the nerve cells* the neurofibrils either form an intracellular network or traverse the cells without forming anastomoses. In some neurons a certain part of the neurofibrils form a central network, surrounding the nucleus. The remainder, united into bundles, traverse the cell without breaking up in it. (2) *In the cellular processes* all the neurofibrils do not converge to the cell, but they may avoid it, either by passing through an important protoplasmic trunk or by passing through the more peripheral ramifications.

(3) *Outside the cells* the neurofibrils do not terminate when they reach the extremities of the processes of the neuron. They leave the cell, either to form in the grey substance extracellular networks, or more rarely to pass into another neuron after a longer or shorter course. In both cases the neurofibrils unite the neurons by continuity.

This work is illustrated by seven plates, comprising 18 well-executed figures.

Drs. Lambinet and Goffin describe a condition met with in persons suffering from ankylostomiasis in which, although the patients felt no inconvenience, the number of eosinophil cells in the blood was enormously increased, in some cases to such a degree as to constitute 10 per cent. to 15 per cent. of all the leucocytes. This condition appears to be constant in persons affected by the parasite, and cases have been seen where the proportion rose to 50 per cent. and even 70 per cent. This eosinophilia indicates serious disturbance of the hæmatopoietic organs (chiefly of the bone marrow) caused probably by absorption of toxic substances from the intestine. It gives an additional reason for a careful examination of all those persons likely to harbour the parasite.

Transactions of the American Surgical Association. Volume the 21st. Edited by RICHARD H. HARTE, M.D., Recorder of the Association. Printed for the Association for sale by William J. Dornan, Philadelphia. 1903. Pp. 630.

IN the forty papers presented to the reader, and in the discussions thereon, in the volume before us will be found much for reflection. As in former years, many of the papers have appeared in the various journals from time to time, and consequently have been read and, no doubt, assimilated by the surgical profession long ere this volume made its appearance. No less than nine different papers are presented dealing with "the toilet of the peritoneum" in different intra-abdominal conditions. General septic peritonitis is still the bugbear of emergency abdominal surgery. Few surgeons are agreed upon the best method of treating the condition. In our opinion the prognosis depends mainly upon the nature of the infection. A line of treatment which may be successful in one type will be utterly futile in another. A perusal of the papers presented on this subject leaves us still in the same unsettled state as to the best method of treatment, yet we acknowledge we have profited by their study.

"Small Contributions to the Surgery of the Intestinal Tract" is the modest title given by Professor von Mikulicz to his communication to the Association. It includes communications on such conditions as "Cardiospasm and its Treatment," "Peptic Ulcer of the Jejunum" "Operative Treatment of Severe Forms of Invagination of the Intestine," and "Operation on Malignant Growths of the Large Intestine." Naturally Mikulicz is still a strong advocate of pyloroplasty as the line of treatment to be adopted for all cases of simple stenosis of the pylorus, but the subsequent paper on "The Surgery of the Simple Diseases of the Stomach," by B. G. A. Moynihan, answers the objection of Mikulicz to gastroenterostomy in preference to pyloroplasty. With the views of Moynihan on this subject of the surgical treatment of the simple diseases of the stomach every British surgeon is fully acquainted.

Dr. William B. Coley in a paper gives his "Results of One Thousand Operations for the Radical Cure of Inguinal and Femoral Hernia performed between 1891 and 1902." The method adopted for cases of inguinal hernia was that of Bassini, an absorbable suture being substituted for the silk used by Bassini. In a complete series of 1,063 cases, there were but two deaths—a mortality of less than one-fifth of one per cent. The percentage of relapses in the inguinal cases was less than one per cent. after transplantation of the cord. In 20 cases in which the cord was not transplanted six relapses were observed. In 66 cases of femoral hernia there was one relapse. The purse-string method of Cushing was used in 50 cases without any relapse, and the Bassini method in 16 cases, with one relapse.

Willing as we are to refer at length to the many interesting papers in the volume, space prevents us doing so. The other papers which interested us exceedingly were—a paper on "A Simplified Operation for Intracranial Resection of the Trigeminal in Inveterate Neuralgias," by Robert Abbe, M.D.; one on "Two Cases of Left Duodenal Hernia, in one of which the Sac contained the Entire Small Intestine, the Cæcum, and a Portion of the Colon, which was Strangulated," by Leonard Freeman, M.D.; one on "Thyroidectomy and Sympathectomy for Exophthalmic Goître," by B. Farquhar Curtis, M.D.; "A Contribution to the Surgery of Cerebral Tumours" by George Woolsey, M.D.; "A Case of Gun-shot Wound of the Brain in which the Röntgen Rays showed the presence of Eight Fragments of the Bullet, with a Description of an Improved Apparatus for Localisation of Foreign Bodies," by W. W. Keen, M.D., and W. M. Sweet, M.D.; and a paper on "Drowning of Patients in Fæcal Vomit during Operations for Intestinal Obstruction and Septic Peritonitis," by E. Wyllys Andrews, M.D., which also appeared some time ago in *The Annals of Surgery.*

Mention of the above papers alone will show the interesting nature and excellence of the volume of the Transactions of the American Surgical Association before us.

Wounds in War. The Mechanism of their Production and their Treatment. By SURGEON-GENERAL W. F. STEVENSON, C.B., A.M.S., B.A., M.B., M.Ch., Dublin Univ.; Professor of Military Surgery, Royal Army Medical College, London. Second Edition, with 127 Illustrations. Pp. 511+xiv. London: Longmans, Green & Co. 1904.

IT is with pleasure we record the appearance of the second edition of this work of Surgeon-General Stevenson. The present edition is brought well up to date, and the experience obtained in the late Boer war is largely incorporated. The writings of Treves, Makins, and Watson-Cheyne are frequently quoted from. Criticism of the work is quite unnecessary. The author's reputation and the success of the previous edition will ensure for this one general approval. In the treatment of shock, however, we would point out that Professor Crile's experiments on "Blood-pressure in Surgery," recently published, go far to prove that strychnin and general stimulants, so largely given as a treatment for severe shock, only produce more profound shock, and that the proper treatment consists in saline transfusion containing

adrenalin chloride. Of the benefit of this line of treatment we can speak very highly.

We desire to congratulate General Stevenson on the success of his work, and to recommend the volume before us to everyone interested in military surgery.

Army Medical Department Report for the Year 1902. Vol. XLIV. London: Printed for His Majesty's Stationery Office, by Harrison & Sons, St. Martin's-lane, Printers-in-Ordinary to His Majesty. And to be purchased, either directly or through any bookseller, from Eyre & Spottiswoode, East Harding-street, Fleet-street, E.C.; or Oliver & Boyd, Edinburgh; or E. Ponsonby, 116 Grafton-street, Dublin. 1904.

THE pages of this octavo volume—419 in number—are, of course, loaded with information which contains in every item matter of interest for the British tax-payer in general, and for the soldier and the physician—the destroyer of life and its preserver—more particularly. The chapters number thirty-four, and the most extended, as would be expected, are those which account for medical experiences in India and Africa. One turns almost instinctively to the pages (there are forty-two of them) which follow the heading, "On the Health of the Troops serving in the South African Command." Long and tortuous are, of course, the mazes of the reports and remarks dealing with the medical and surgical experiences of the Royal Army Medical Corps in South Africa during that historic year. The report opens by telling the reader that, "On the cessation of hostilities in May, 1902, the South African Command was divided into three districts—viz., Cape Colony (including St. Helena), Natal, and Transvaal and Orange River Colony." The first is then dealt with in a quarter page, the second in a trifle over six pages, and eight and a half are devoted to the last-named district. In this the average strength of the European troops from June 1 to Dec. 31, 1902, was 45,399. The percentage of deaths was only 5.23. There was a record of 129 surgical operations, followed by 10 deaths. The number of men sent home as invalids was 792; and it is a fact of noteworthy interest that, "the most frequent cause of invaliding was caries of the teeth." Its recorded victims reached the number of 152. Enteric fever came next, with a contribution of 68 invalids, and debility made a fairly good third with its list of 55. After a longer interval there followed secondary syphilis with its 26, dysentery reckoning 23, and malarial fevers trundling in the rear with their composite levy of 21. As may well be expected, the information given under the various headings is extremely instructive and interesting. The perusal is productive of suggestions for the prevention as well as for the cure of disease. We incline to think that the Army Medical Reports are far too much neglected by the members of our profession who are not connected with the "services," and we think it a great pity that they should be. These reports are improving in value year by year. The scientific standard of the Royal Army Medical Corps is obviously rising to a higher level every successive issue; and we are decidedly of the opinion that the members of our profession who are less directly connected with the machinery for the destruction of human life should avail themselves of the opportunity of making themselves acquainted with their methods and results.

The Medical Temperance Review. Vol. II. No. 1. *Tolle Causam.* The Official Organ of the British Medical Temperance Association.

THIS excellent little periodical has, by an accident, remained too long unnoticed in our pages. It must be admitted by every reader who is not prejudiced by personal taste or by financial interest that the work in which this journal has enlisted its staff is one of the most important connected with the welfare of every civilised nation in the world. That a more than dimensional proportion of the interest of the alcohol question is justly due to Ireland is well known to its every intelligent inhabitant. The evils of alcoholism are spread out before our pain-stricken vision in every lane and alley of our metropolis; and, to a slighter degree, in all our towns and villages. And those who have studied the sciences of "fiscality" and "financial relations" know that the infliction of the perennial grievance of abstracting so glaringly disproportionate a quantity of the imperial revenue from this island has been achieved by dexterously taking advantage of our insular tendency to imbibition. One of the heaviest blows which a patriotic Ireland could possibly inflict on its neighbouring British rulers would be given by taking the pledge all round—old and young—and keeping it! Why, we often say to ourselves, do not patriotic politicians utilise this fact?

Nordrach-on-Dee Sanatorium. Banchory, N.B.

THIS most tastefully-printed and exquisitely-illustrated pamphlet gives the reader a very favourable impression of what the institution of which it tells really is, and of the efficiency with which it is probably managed. There are twenty-two octavo pages of text, and the booklet is "interleaved throughout" with really delightful illustrations—in most cases supplied on both pages of the leaf, too.

Sanatoriums certainly constitute one of the characteristic features of the opening years of the twentieth century, and it was natural to expect that practical Scotland would not long remain behindhand in furnishing its quota. North Briton certainly possesses its special recommendations in this department. The hardy race which springs from its soil incline the observers of other countries to think that their early surroundings must have been peculiarly unfavourable to wasting disease—even though they never display any inclination to return to them. The surroundings of the sanatorium which forms the subject of this pamphlet are shown by the illustrations to be most attractive, and make it difficult for the alien to realise that they represent a corner of the country in which Samuel Johnson travelled, and where, according to the ponderous sarcasm of the great lexicographer, such a thing as a tree was never seen to grow. We were surprised to find that the writer found it desirable to assert the value of the quality of the air: "Although it has been urged in certain quarters that the *quality of the atmosphere* with which the patient is surrounded makes little difference to the success of the treatment, we do not share that view. On the contrary, we maintain that the character of the air which a consumptive patient inhales is an element of the most vital importance; and if the best results are to be obtained no effort should be spared to procure the most desirable atmospheric surroundings." We find it rather difficult to fancy any sensible clinical observer disputing the value of the quality of the atmosphere to a victim of pulmonary disease. A bacteriological pathologist might do so—on the ground that sewer-gas furnishes a very thin crop of bacteria, and that scavenging is said to be an exceptionally healthy occupation.

The Medical Book News. Vol. II. March, 1904. No. 2. Devoted to the supplying of authoritative information concerning the Literature of Medicine and the Allied Sciences. Published bi-monthly—six times a year. Philadelphia: P. Blakiston's Son & Co.

THIS periodical octavo pamphlet includes—with paper covers—32 pages of closely-printed matter, which contain bibliographical and medical information of the most various types. They tell us of the recent books, of the forthcoming books, of the most important reviews, and give, of course, a large number of instructive advertisements and special book-lists. The extracts from cosmopolitan sources range in matter from "Declining Death-rate in Europe" to "Medical Books bound in Human Skin;" and from "Medical Fame outside of Medicine" to "Virchow's Sarcasm"—which formed the foundation of his political fame. The extra-medical fame of medical celebrities is specially associated with the names of Quesnay, the political economist, who was physician to Mme. de Pompadour, of pre-revolutionary fame; of Oliver Wolcott, and Benjamin Rush, whose names are included in the signatures to the United States "Declaration of Independence"; of Erasmus Darwin, physician, botanist, and poet, as well as grand-father of the author of "The Origin of Species"; of Louberbielle, the vigorous opponent of lithotrity, and regicide of the French Revolution; of Guillotin and of Gatling—the respective inventors of the life-destroying engines by which their names have been preserved for the unedifying instruction of posterity. Verily, verily, this small pamphlet has proved quite an intellectual treat!

The New Zealand Medical Journal. Edited by J. MALCOLM MASON. Vol. III. No. 10. October 31, 1903. Wellington, N. Z.: Published by the British Medical Association, New Zealand Branch. 1903.

WE have examined with pleasure and profit this sample issue of a journal which honourably represents the clinical and scientific thought and progress of our antipodal brethren of one of the remotest regions of our earth. Between its blue paper covers are included—besides advertisements—90 pages of matter, which is excellently, we might even say beautifully, printed, and contains up-to-date information upon the most varied subjects of professional interest, and a liberal leaven of original thought. We cordially congratulate both editor and contributors upon the result attained by their amalgamated exertions. The contents include such various subjects as "The Operative Treatment of Movable Kidney," "Chronic Urethral Discharge," "Personal Identity," "Case of Pylorectomy," "Intestinal Obstruction due to Paralysis of a Loop of Jejunum," &c. There are two contributions with headings perhaps less catching, to which we specially commend attention—they are "Venesection," by F. A. Monckton, M.R.C.S. Eng.; and "Better Ventilation for the Travelling Public." They are full of good sense and suggestiveness.

We will close this passing notice of our junior contemporary by wishing it all the success that it deserves. In our opinion it need not desire more.

PART III.

MEDICAL MISCELLANY.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir John Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F.R. Met. Soc.
Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

Vital Statistics.

For four weeks ending Saturday, June 18, 1904.

IRELAND.

Twenty-two Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending June 18, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 22.1 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289.

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	May 28	June 4	June 11	June 18			May 28	June 4	June 11	June 18	
22 Town Districts	19.8	20.1	18.1	22.1	19.9	Lisburn -	27.3	9.1	9.1	40.9	21.6
Armagh -	27.5	-	6.9	34.4	17.2	Londonderry	18.9	22.7	22.7	7.6	16.7
Ballymena	14.4	4.8	-	9.6	7.2	Lurgan -	26.6	17.7	8.9	17.7	17.7
Belfast -	19.5	19.3	18.9	18.3	19.0	Newry -	21.0	-	16.8	8.4	11.6
Clonmel -	25.6	20.5	-	-	11.5	Newtownards	22.9	17.2	5.7	45.8	22.9
Cork -	18.5	24.7	17.1	30.8	22.8	Portadown -	5.2	15.5	5.2	36.2	15.5
Drogheda -	12.3	36.8	24.5	36.8	27.6	Queenstown	19.8	13.2	-	6.6	9.9
Dublin - (Reg. Area)	21.3	19.7	18.3	21.7	20.2	Sligo -	-	28.8	4.8	105.5	34.8
Dundalk -	23.9	8.0	31.9	16.0	19.9	Tralee -	21.1	15.9	26.4	26.4	22.4
Galway -	15.5	19.4	19.4	35.0	22.3	Waterford -	17.5	25.3	7.8	13.6	16.1
Kilkenny -	24.6	-	39.3	34.3	24.5	Wexford -	14.0	56.0	32.7	32.7	33.8
Limerick -	9.6	31.4	24.6	27.3	23.2						

The deaths registered in each of the four weeks ended Saturday, June 18, and during the whole of that period, in the several districts, alphabetically arranged, correspond to the annual rates per 1,000 in the foregoing Table.

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, June 18, 1904, were equal to an annual rate of 1.5 per 1,000, the rates varying from 0.0 in seventeen of the districts to 10.6 in Tralee—the 5 deaths from all causes registered in that district including 2 from whooping-cough. Among the 126 deaths from all causes registered in Belfast are 6 from measles, 7 from whooping-cough, 2 from enteric fever, and 5 from diarrhœal diseases. The 45 deaths from all causes in Cork include one death each from whooping-cough, enteric fever, and diarrhœa.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, June 18, 1904, amounted to 182—82 boys and 100 girls; and the deaths to 169—92 males and 77 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 23.3 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the area, the rate was 21.7 per 1,000. During the twenty-four weeks ending with Saturday, June 18, the death-rate averaged 26.7, and was 1.5 below the mean rate for the corresponding portions of the ten years 1894–1903.

The total (169) deaths registered include 2 from measles, 2 from influenza, 3 from whooping-cough, and one from enteric fever. Not one death from small-pox, scarlet fever, typhus, or diarrhœa was registered. The deaths from measles, influenza, whooping-cough, and enteric fever in the preceding 3 weeks were, respectively—from measles, 0, 5, and one; from influenza, 2, 2 and one; from whooping-cough, 4, 9, and one; and from enteric fever, one, 2, and one.

There were two deaths from broncho-pneumonia, and 11 deaths were assigned to *pneumonia.*

Of 38 deaths from tuberculous disease, 6 were attributed to tubercular phthisis, 20 to *phthisis,* 3 to tubercular meningitis, one to tubercular peritonitis, one to tabes mesenterica, and 7 to other forms of the disease.

Two deaths were due to carcinoma, 2 to sarcoma, and 4 to *cancer* (*malignant disease*)

The deaths of 3 infants under one month old were due to "premature birth."

Fifteen deaths were caused by diseases of the brain and nervous system. The total (15) includes the deaths of 6 infants under one year old from *convulsions.*

Diseases of the heart and blood-vessels accounted for 34 deaths.

Bronchitis caused 14 deaths.

One accidental death by drowning, of a child 2 years of age, was recorded.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 4 children under 5 years of age (including 3 infants under one year old) and the death of one person aged 80 years.

Thirty-seven of the persons whose deaths were registered during the week ended June 18 were under 5 years of age (24 being infants under one year, of whom 8 were under one month old), and 37 were aged 60 years and upwards, including 22 persons aged 70 and upwards, of whom 8 were octogenarians.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended May 21, 1904, and during each of the preceding three weeks.

Cities and Urban Districts	Week ending	Small-pox	Measles	Rubella, or German Measles	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	May 28	-	-	-	8	-	-	1	-	-	10	2	-	-	-	21
	June 4	-	-	-	5	-	-	3	-	1	5	13	-	-	-	27
	June 11	-	-	-	7	-	-	2	-	2	10	14	-	-	-	35
	June 18	-	-	-	2	-	-	5	-	7	10	11	-	-	-	35
Rathmines and Rathgar Urban District	May 28	-	-	-	4	-	-	-	-	-	1	-	-	-	-	5
	June 4	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
	June 11	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	June 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pembroke Urban District	May 28	-	-	-	2	-	-	-	-	-	-	-	1	-	8	11
	June 4	-	-	-	-	-	-	1	-	-	1	1	-	-	15	18
	June 11	-	1	-	-	-	-	-	-	-	-	1	-	-	2	4
	June 18	-	5	-	-	-	-	-	-	1	-	2	-	-	10	18
Blackrock Urban District	May 28	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	June 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	June 11	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	June 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kingstown Urban District	May 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	June 4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	June 11	-	-	-	-	-	-	1	-	-	1	-	-	-	-	2
	June 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Belfast	May 28	3	-	-	13	-	-	4	-	12	9	11	1		-	53
	June 4	2	-	-	14	-	-	8	-	2	6	4	-	-	-	36
	June 11	5	-	-	11	-	-	1	1	9	10	6	-	-	-	43
	June 18	12	-	-	14	-	-	2	1	11	10	2	-	-	-	52

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, June 18, 1904, 16 cases of measles were admitted to hospital, 4 were discharged, and 44 patients remained under treatment at its close.

Seven cases of scarlet fever were admitted to hospital, 9 cases were discharged, and 33 cases remained under treatment at the close of the week. This number is exclusive of 9 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Five cases of diphtheria were admitted to hospital, 4 were discharged, and 16 cases remained under treatment at the close of the week.

Eight cases of enteric fever were admitted to hospital, 6 cases were discharged, and 26 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 11 cases of pneumonia were admitted to hospital, 5 patients were discharged, there was one death, and 27 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, June 18, 1904, in 76 large English towns, including London (in which the rate was 12.8), was equal to an average annual death-rate of 13.8 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 17.0 per 1,000, the rate for Glasgow being 18.0, and for Edinburgh 15.6.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N.*, *Long.* 6° 15′ *W.*, *for the Month of June,* 1904.

Mean Height of Barometer,	30.020 inches.
Maximal Height of Barometer (22nd at 9 a.m.),	30.393 „
Minimal Height of Barometer (14th at 9 p.m.),	29.292 „
Mean Dry-bulb Temperature,	56.7°.
Mean Wet-bulb Temperature,	52.7°.
Mean Dew-point Temperature,	49.1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.349 inch.
Mean Humidity,	76.2 per cent.
Highest Temperature in Shade (on 30th),	72.0°.
Lowest Temperature in Shade (on 27th),	45.1°.
Lowest Temperature on Grass (Radiation) (27th),	41.7°
Mean Amount of Cloud,	53.2 per cent.
Rainfall (on 10 days),	1.076 inches
Greatest Daily Rainfall (on 9th),	.247 inch.
General Directions of Wind,	E.N.E., W.N.W.

Remarks.

June, 1904, was an uneventful and in all respects a favourable month. A moderate rainfall was distributed over some 10 days.

The mean temperature was very nearly up to the average, and a deficiency of cloud caused rather low readings of the terrestrial radiation thermometer by night, but a corresponding high day temperature and a large percentage of bright sunshine. The amount of cloud was 53.2 per cent. at 9 a.m. and 9 p.m. The estimated duration of bright sunshine was 242.25 hours, or a daily average of 8.08 hours.

In Dublin the arithmetical mean temperature (57.8°) was below the average (58.0°) by 0.2°; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 56.7°. In the forty years ending with 1904, June was coldest in 1882 (M. T. = 55.8°) and 1879 ("the cold year") (M. T. = 55.9°). It was warmest in 1887 (M. T. = 62.3°); in 1896 (M. T. = 61.4°); and in 1899 (M. T. = 61.3°). In 1903 the M. T. was 56.4°.

The mean height of the barometer was 30.020 inches, or 0.103 inch above the corrected average value for June—namely, 29.917 inches. The mercury rose to 30.393 inches at 9 a.m. of the 22nd, and fell to 29.292 inches at 9 p.m. of the 14th. The observed range of atmospheric pressure was, therefore, 1.101 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 56.7°, or 5.0° above the corresponding M. T. for May, 1904. Using the formula, ***Mean Temp.*** = ***Min.*** + (***Max.*** — ***Min.*** × .465), the value was 57.3°, or 0.2° below the average mean temperature for June, calculated in the same way, in the thirty years, 1871–1900, inclusive (57.5°). The arithmetical mean of the maximal and minimal readings was 57.8°, compared with a thirty years' average of 58.0°. On the 30th the thermometer in the screen rose to 72.0°—wind S.S.W.; on the 27th the temperature fell to 45.1°—wind, N.W. The minimum on the grass was 41.7° on the 27th.

The rainfall amounted to 1.076 inches on 10 days. The average rainfall for June in the thirty-five years, 1866–1900, inclusive, was 1.920 inches, and the average number of rainy days was 15. The rainfall, therefore, and also the rainy days were considerably below average. In 1878 the rainfall in June was very large—5.058 inches on 19 days; in 1879, also, 4.046 inches fell on 24 days. On the other hand, in 1889, only .100 inch was measured on 6 days. In 1887 the rainfall was only .252 inch, distributed over 5 days. In 1903, 2.494 inches fell on 13 days.

High winds were noted on 11 days, but reached the force of a gale only on the 16th. A solar halo was seen on the 13th. Temperature reached or exceeded 70° in the screen on 4 days—

the 4th, 13th, 29th and 30th—compared with 2 days in 1903, only one day in 1901, and 8 days in 1902. Lightning was seen on the night of the 9th.

The rainfall in Dublin during the six months ending June 30th amounted to 12.817 inches on 102 days, compared with 15.054 inches on 108 days in 1903, 12.344 inches on 98 days in 1902, 9.352 inches on 80 days in 1901, 13.090 inches on 114 days in 1900, 11.295 inches on 95 days in 1899, 12.115 inches on 98 days in 1898, 13.950 inches on 113 days in 1897, 7.854 inches on 84 days in 1896, 12.282 inches on 80 days in 1895, 14.361 inches on 109 days in 1894, 9.624 inches on 78 days in 1893, only 6.741 inches on 67 days in 1887, and a thirty-five years' average of 12.060 inches on 95.0 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 30.020 inches, the highest reading observed being 30.394 inches at 9 a.m. of the 22nd, the lowest, 29.298 inches at 9 p.m. of the 14th. The arithmetical mean temperature was 57.0°, the mean dry-bulb reading at 9 a.m. and 9 p.m. being 56.8°. Rain fell on 9 days to the amount of 1.035 inches, .226 inch being measured on the 10th, and .225 inch on the 9th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 231.5, giving a daily average of 7.7 hours. The corresponding figures for January, 1904, were 45.25 hours and 1.46 hours; for February, 37.25 hours and 1.28 hours; for March, 89.75 hours and 2.9 hours; for April, 168 hours and 5.6 hours; and for May, 192.5 hours and 6.2 hours.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.280 inches on 10 days, compared with 3.341 inches on 16 days in June, 1902, and 1.785 inches on 11 days in 1903. The heaviest rainfall in 24 hours was .560 inch on the 9th, besides which .430 inch fell on the 14th, and .420 inch on the 24th. The total fall since January 1 has been 14.307 inches on 94 days, compared with 17.440 inches on 90 days in the first six months of 1903, 15.091 inches on 84 days in 1902, 13.670 inches on 75 days in 1901, 18.191 inches on 105 days in 1900, 19.510 inches on 95 days in 1899, 13.500 inches on 88 days in 1898, 18.125 inches on 106 days in 1897, 7.356 inches on 61 days in 1896, and 14.270 inches on 67 days in 1895.

Dr. Arthur S. Goff returns the rainfall at Lynton, Dundrum, Co. Dublin, at 1.22 inches on 14 days, compared with 1.54 inches on 12 days in 1903, 3.08 inches on 19 days in 1902, and 1.71 inches on 13 days in 1901. The greatest daily fall was .33 inch on the 9th. The mean shade temperature was 59.1°. The thermometric range was from 46° on the 27th to 75° on the 29th.

The rainfall recorded at Cloneevin, Killiney, Co. Dublin, by Mr. R. O'B. Furlong, C.B., was 1.42 inches on 11 days. The maximal fall in 24 hours was .46 inch on the 14th. The average rainfall in June in the 19 years (1885–1903) was 1.827 inches on 13.2 days. The total fall at Cloneevin since January 1, 1904, amounts to 12.92 inches on 95 days.

At the Railway Hotel, Recess, Connemara, Co. Galway, Mr. A. A. Smith reports that the rainfall was 3.655 inches on 14 days. On the 14th, .820 inch fell; and on the 28th, .700 inch. Fair weather was generally prevalent, although the individual rainfalls were heavier than usual.

Mr. W. Miller returns the rainfall at Wellesley-terrace, Cork, at 2.17 inches on 9 days—this amount falling short of the average for June by .62 inch. The greatest rainfall in 24 hours was .67 inch on the 14th. The rainfall of the first six months of 1904 in Cork was 19.34 inches, or 1.59 inches in excess of the average.

At the Ordnance Survey Office, Phœnix Park, Dublin, rain fell in June on 10 days to the total amount of 1.475 inches, .440 inch being registered on the 17th. The duration of bright sunshine was 231.1 hours, the most in one day being 14.8 hours on the 5th.

Dr. J. Byrne Power, D.P.H., F.R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 56.7°, being 1.5° above the average for June during the previous 6 years, the extremes being—highest, 72.2° on the 3rd; lowest, 47.5° on the 4th. At Bournemouth the mean was 58.7°, the extremes being—highest, 74° on the 6th; lowest, 44° on the 9th. These figures again confirm the statement in former reports—*i.e.*, that the relative conditions of temperature at Kingstown and at Bournemouth, as well as at all stations on the south-coast of England, east of the Start Point in Devonshire, become reversed at or about the summer solstice, the heat at all these English stations becoming excessive during July, August, and September, while at Kingstown it will be comparatively cool. The mean daily range of temperature at Kingstown was 12.7°, and at Bournemouth 16.7°. The mean humidity of the atmosphere was 75 per cent. The mean temperature of the sea at Sandycove bathing-place was 53.3°. The rainfall was 1.32 inches on 10 days, and at Bournemouth it was 0.92 inches on 9 days. The total rainfall for the first 6 months of the present year at Kingstown amounted to 12.99 inches, being 1.01 inches above the average for 14 previous years 1873–83, and (1901–3). The total duration of bright sunshine was 230.7 hours at Kingstown 231.1 hours at Ordnance Survey Office, Phœnix Park, 185.0 hours at Parsonstown, 174.4 hours at Valentia, 214 hours at Southport, 196.3 hours at Eastbourne, and 223.3 hours at Bournemouth. The total duration of bright sunshine during the first ·6 months of the present year was 780.6 hours at Kingstown, 811.2 hours at the Phœnix Park, 645.3 hours at Valentia, 632.9 hours at Parsonstown, 701.1 hours at Southport, and 675.0 hours at Eastbourne.

LEMNA MINOR *v.* ANOPHELES.

Major J. R. Adie, I.M.S., thinks (*Indian Medical Gazette*, June, 1904) that he has (accidentally) discovered an agent which may have the effect of clipping one at least of the wings of the detestable mosquito. He had been searching a tank last Autumn for larvæ. This tank was of the type " which is usually described as a dirty green slimy pestilential tank," " a disgrace to a compound," &c. " The green scum was thick, and covered the entire surface of the water;" but not a single larva of any mosquito could be found! At that time larvæ were quite plentiful in other " naked " waters. He then searched a much larger tank (80 yards square) of the same nature. " Not a single mosquito larva could be found anywhere." The green scum was then examined and was found to consist of myriads of minute plants, which were identified by Major Prain, I.M.S., as *Lemna minor*. Experiments led Major Adie to the belief that the floating lemna leaves acted as a mechanical obstruction to the deposition of the eggs, and that the mosquitoes have learned this fact by experience. Hence his suggestion: " Why not deliberately promote the growth of *Lemna minor* in all unavoidable collections of water to prevent the propagation of mosquitoes? Thus it might turn out that the pestilential green scum, which we have been in the habit of anathematising, is really a boon and a blessing."

PERISCOPE.

REPORT ON PUBLIC HEALTH.

Sir Charles A. Cameron, C.B., writes as follows:—

"In referring to the low marriage rate in Ireland in my recent Report on Public Health (Vol. CXVII. of this Journal, page 451), I thought that it might be due to defective registration—*i.e.*, that the marriages were not always registered. On consideration, however, there are other ways of accounting for it; for example, by so large an emigration of persons of marriageable ages, or near those ages. The registration of deaths and births is so admirably carried out in Ireland that it would hardly be likely that the registration of marriages would be neglected."

THE STOMACH WHISTLE.

The June issue of the *Medical Brief* contains an article by Professor Kemp, M.D., of New York, which bears the somewhat startling title of "The Stomach Whistle and its Application." In the preliminary remarks, the writer points out that the capacity of the healthy stomach is an extremely variable quantity; and that even "an abnormally large stomach does not necessarily signify a 'dilated stomach' in a pathological sense." He specially points out that, in the standing position, "the stomach, even when empty, descends to the full length of its suspensory ligaments at once, and its lower border is at a constant level, or within about an inch of the same, whether the organ be full or empty." He further states that he is "fully aware that this statement will excite immediate dissent from many, but it is capable of easy proof." And it is for the establishment of such proof that he has devised the "stomach whistle." The description of the instrument and its mode of application are, in the words of the inventor, as follow:—"This consists of a rectal tube of small caliber, with a whistle in the end. To it is attached an ordinary aspirating bulb without valves. The tube is inserted into the stomach, the finger is placed over the open end of the bulb, and a single bulb full of air is forced into and drawn out of the stomach by short and rapid intermittent contractions of the bulb, compression being excited with the other finger of the same hand. This entirely eliminates the possible chance of over-distending the stomach with air, and the organ remains practically empty. A stethoscope is placed over the abdomen, and the point of greatest intensity of sound is marked by a cross with a coloured pencil. The sound is of a whistling or wheezing character, the tube is pushed in and out at different levels, and the various points of sound are marked; the lowest is the lower border of the stomach."

IS THAT APPENDIX TO BE REMOVED OR NOT?

THE *New York Medical Journal* of June 25, 1904, has an ably-written (signed) editorial, from the pen of Charles Greene Cumston, on the ever-green subject of "The Question of Removal of the Vermiform Appendix." In our student days we often felt puzzled for an explanation of the purpose of a beneficent Providence in the creation and placing of an organ which never seemed to be applicable to any useful purpose, and might sometimes be productive of immense mischief. Of course, as that dates from over twenty years ago, we did not know so much of the range and possibilities of appendicular mischief as we do at the present day. But a partial solution is in full evidence in the opening years of the Twentieth Century; for the all-important appendix presents items of utility to the diagnosticating physician, to the operating surgeon, to the long-suffering editor, and to the plodding medical journalist. Till the continued extirpation of the vermiform appendix has deprived it of the last surviving vestige of its inherited rights of development and reproduction, there will be doctors and patients seeking intercourse for purposes of mutual improvement; and the medical editors and the medical critics will drop in for a passing share of the profits of the gleaners. We are glad to be able to say that Dr. Cumston's article is a very sensible one. He tells us that: "The ideal thing which is accomplished occasionally is the removal of the appendix after an attack of appendicular colic, colic without a rise of temperature and due to the diseased condition of the appendix." And further he informs us that, "Regarding the question of removing the appendix during the first twenty-four hours of the first attack, I have no hesitancy in saying that it is the ideal method." This view is, of course, based on the fact with which he opens this communication: "It is well known that the first attack of appendicular inflammation is the most dangerous one, because it is during that attack that nearly all abscesses occur, and also fulminating inflammation arises during the first attack in the larger number of instances." Of course every sensible clinical observer must admit the great desirability of performing an inevitable operation before the formation of abscesses or adhesions; and before the tissues have quite lost their powers of resistance or recuperative vitality. Other points emphasised in this article are: "That removal should not be undertaken during the second, third, or fourth day, except as a last resort, or when the case becomes progressively worse." "When an abscess is formed, all are agreed that it should be opened and drained, but to hunt for the appendix, which is in all probability tucked away in some inaccessible recess, is to be condemned . . . When general peritonitis has supervened, it makes very little difference whether the appendix is removed or not, so long as too much time is not wasted in the operation."

ASSOCIATION OF MEDICAL PROFESSIONAL TEACHING—HOLIDAY COURSES OF LECTURES, 1904.

FROM Monday, the 19th of September, to Saturday, the 1st of October, courses of lectures and practical demonstrations, a list of which follows, will be given at the Hôtel des Sociétés savantes, rue Serpente, and in several clinical hospitals in Paris. 1° At the Hôtel des Sociétés savantes, rue Serpente:—Bacteriology, Dr. Veillon; Dermatological and Syphilographical Therapeutics, Dr. Leredde; Massage, Dr. Marchais; Diseases of the Urinary Organs, Dr. Noguès; Electrotherapy, Dr. Zimmern; Midwifery, Dr. Dubrisay; Nervous Diseases, Dr. Sollier; Applied Therapeutics, Dr. Landowski; Hygiene and Therapeutics of Children Dr. Lesné. 2° In various clinical hospitals:—Gynæcology, Dr. Arrou (St. Antoine Hospital); Practical Surgery, Dr. Souligoux (Lariboisière); Auscultation, Dr. Caussade (Tenon); Diseases of the Stomach, Dr. Soupauly (Bichat); Diseases of the Ear, Nose and Larynx, Dr. Laurens (Bichat); Ophthalmology, Dr. Morax (Lariboisière). The entrance fee for each course of lectures (which will include about from 8 to 10 lessons) is fixed at 20 francs, to be paid when entering one's name. Entrance by correspondence is allowed. A detailed programme will be sent on request. For entrance and all information apply to Dr. Marchais, Hôtel des Sociétés savantes, rue Serpente, Paris.

MASTOID OPERATION.

THE *Medical Times and Hospital Gazette* for December 19, 1903, has a very interesting article (historical and critical) from the pen of Mr. Macleod Yearsley, F.R.C.S., on "The Modern Mastoid Operation: Its History and Development." The procedure, so far as our present knowledge teaches, was first suggested in 1649, by the famous anatomist Riolanus, for occlusion of the Eustachian tube; but was first *performed* by Petit, about 1774—a century and a quarter after! About the same period, Morand is said to have opened an encephalic abscess through the mastoid. Many attempts at reviving the operation of opening the mastoid were made down through the whole nineteenth century; but it was greatly neglected in these countries, and met with much direct opposition on the Continent. The author agrees with MacBride in giving the palm to Schwartze of Halle, "who was really the first to elaborate the technique and indications of the operation." Schwartze's monograph on the subject was published in 1897. The writer does not discuss the details of the operation, but gives a list of its indications. We must point out, before closing, a small Irish grievance which we have discovered in this connection. The author mentions many names of anatomists and surgeons who have discussed or performed mastoid operations in their various forms, but we find no allusion to one of the most instructive papers ever published in connection with the question of mastoid operation. The one to which we refer was written by Professor Birmingham, and appeared in the pages of this Journal.

PARASITIC ANÆMIA.

THE principal item in the *Bulletin de l'Académie de Médecine*, No. 18 (Séance du 3 Mai, 1904) is a communication which bears the title "Anémie ankylostomiasique des mineurs," contributed by M. A. Manouoriez (de Valenciennes). The subject is, indeed, at present one of cosmopolitan interest, for the *Ankylostoma duodenale*, also functioning as the book-worm of our trans-Atlantic *confrères*, and the Rand-worm of the recently storm-tested mining localities of South Africa—with its unlicensed lieutenants, the *Anguillula intestinalis* and the *Pseudo-rhabditis stercoralis*—bids fair to rival for a season the scientific influence of the potent and protean Bacterium. The present communication was inspired by the nomination of a Commission of Ankylostomiasis. The writer is a thorough master of the subject. He deals fully with the history of miners' anæmia, and freely discusses the question whether there are really several varieties, and not one merely, and that the result of the presence of a certain definite parasite. The two additional ones whose names are given above may sometimes be duly credited with the genesis of the symptoms. The St. Gothard tunnel epidemic was merely a revival which happened to catch the public ear and eye in a more inquiring generation. Many epidemics of miners' anæmia had already been recorded in various European countries. As the number of parasites found in the intestines of an affected miner has been known to reach to 3,000, we can readily fancy what a pernicious course it may tend to run, and how important is the saving treatment of redemption.

THE OMNIPOTENCE OF THE BACTERIUM IN DANGER!

THE *Journal of the American Medical Association* presents in the issue for June 18, 1904, an editorial which bears the creepy heading of "Bacteria in Normal Tissue;" suggestive of the early extinction of the whole human family, as their mortal enemies had obtained possession of the last stronghold of life! It used to be held, of course—or, perhaps, it should more truly be said, taken for granted—that the organs of the body are normally sterile; but we are now to be deprived of that last consoling consideration. The facts are stated as follow:—"Adami injected the colon bacillus intravenously into animals, and in fifteen minutes these organisms were found in the cells of the liver and kidney. In two or three hours later the organisms appeared as diplococcoid forms, and often arranged in the cells in a characteristic manner. This diplococcus appearance is due probably to the disintegration of the bacteria by the tissues of the body. Organisms may be seen frequently in the intestinal or mesenteric lymph glands, and many hold that they are constantly present in these places. In cirrhosis of the liver, Adami observed small granular bodies often in diplococcoid arrangement in the liver cells, which were at first taken for pigment. Later he found these bodies present in practically all livers taken at autopsy, and considers them bacteria undergoing destruction. Bodies similar in appearance have been found in normal kidneys also." The observations of Nicholls are also quoted from the *Journal of Medical Research*, who "describes a method of observing bodies which he considers bacteria in the mesentery of normal animals." And the following comment conveys the editorial view of the situation, which seems to us unimpeachable:—"While these results require further confirmation and more extended investigation, the possibility of bacteria being taken into the body and distributed in various organs is certainly an interesting subject, and may throw some light on the numerous infections which so often originate in some unexplained manner in various parts of the body. As Adami expresses it, the organs are not actually, but only potentially sterile, the bacteria being carried to them continually, and in health undergoing a rapid disintegration. If the resistance of the body is lowered, or an excess of germs invade the organs, or if the virulence of the bacteria which normally enter the body, such as the colon forms, should increase, an infection might result. This may be the true explanation of the so-called cryptogenetic septicæmias, terminal infections, idiopathic fevers, and the like." Verily, verily, the world of pathological science seems at last to have waked up to the fact that the bacteria, which are always floating about in every natural medium, liquid and gaseous, suffer when they fall upon healthy living tissue, the fate of the seed cast by the Scriptural sower which "fell upon the rock." The terms *life* and *health* connote *something!*

THE NASAL MUÇOUS MEMBRANE AND THE PAROXYSMAL NEUROSES.

THE *Australasian Medical Gazette* of May 20, 1904, contains a very interesting communication from Francis Hare, M.D., Consulting Physician, Brisbane General Hospital. It bears the title: "Cauterisation of the Nasal Mucosa and the Paroxysmal Neuroses." He opens with a discussion of the method of treating asthma, which was introduced by Dr. Alexander Francis, late of Brisbane. It is as follows:—"After painting one side of the septum nasi with a few drops of solution of cocaïn and resorcin on a pledget of cotton wool attached to a probe, I draw a line with a galvano-cautery point from a spot opposite to the middle turbinated body, forwards and slightly downwards, for a distance of rather less than half an inch. In about one week's time I repeat the operation on the other side, and afterwards do it on alternate sides at intervals of ten days or a fortnight, as occasion requires. On each occasion I select a fresh spot to cauterise." Dr. Hare now tells us that "the results of this practice, including cases treated by Dr. W. N. Robertson, of Brisbane, are as follow:—Complete relief, 313 cases; great improvement, 143 cases; slight or temporary improvement, 40 cases; no improvement, 24 cases. Total treated, 520 cases." These results are accepted by Dr. Hare "with but little reserve," and he expands the view of the utility of this item of therapeusis. "But if, on the other hand, asthma is a vaso-motor neurosis, and, as I have argued in my recent series of papers on the mechanism of the paroxysmal neuroses, constitutes but one member of a long series of vaso-motor neuroses, all more or less closely allied to each other in their mechanism, then there seems no *à priori* reason why cauterisation of the septum nasi should not be widely extended as a therapeutic measure." He then proceeds to comment on the pronounced neurotic symptoms which have been relieved by cauterisation of the nasal mucous membrane: dysmenorrhœa, angina pectoris, epilepsy (which had replaced asthma), and migraine. There is a great deal of suggestiveness in this paper. The physiological basis is also a sound one. We should very much like to have further knowledge on this and allied subjects—attained by corresponding methods.

DOUBLE HARE-LIP.

M. Reverdin (*Gaz. Méd. de Paris*, April 23) presented a patient to the Surgical Society of Paris on whom he had successfully operated for double hare-lip—the patient, a young woman of twenty-five years of age, having refused to take a general anæsthetic.

OVARIOTOMY AS A REMEDY FOR INOPERABLE CANCER.

M. Paynes (*Gaz. Méd. de Paris*, April 23) presented to the Academy of Medicine of Paris a patient on whom he had performed ovariotomy for inoperable epithelioma. At the time of presentation no trace of the disease was discernible. M. Guinard presented a similarily successful case at the Surgical Society.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"*Hemisine.*"

Solutions of the active principles of supra-renal gland have been employed locally for their hæmostatic and anæsthetic actions in nasal catarrh and hay fever, and for the relief of conjunctivitis. Their application leads to immediate blanching of the injected vessels. "Soloid Hemisine," a new preparation, presents the hæmostatic principle of the supra-renal gland in a stable, soluble and convenient form, and is of constant composition. The extraordinary properties of preparations of this gland are shown in a pronounced degree by "Hemisine." For controlling the hæmorrhage in epistaxis, or during operations, particularly on the nose or larynx, "Hemisine" has prompt and powerful action without injurious after-effects. "Hemisine" is used in ophthalmology for conjunctival hyperæmia, &c., and in various inflammatory conditions of the eye; it is also regarded as a valuable diagnostic agent for differentiating superficial irritation and inflammation of the tissues from the more deeply-seated conditions of inflammation. It is useful in the treatment of hay fever, and in other acute and chronic affections of the nose and throat. It may also be employed in the treatment of gastric and other internal hæmorrhages, and in all cases where a hæmostatic action is required. In dentistry, it is a useful agent in controlling the bleeding after extraction. The above examples of the wide range of usefulness of "Hemisine" will suggest many other conditions in which it may be advantageously employed. The following method of using "Soloid Hemisine" is found convenient:—When one is dissolved in 5 c.c. (84 minims) of water, a solution containing one part of "Hemisine" in 1,000 of normal saline is produced. This solution is of suitable strength for general surgical use. When a more dilute solution is required, it may be obtained by dissolving one product directly in the requisite volume of water, or by diluting the original 1 in 1,000 solution with normal saline (0.75 per cent. aqueous solution of sodium chloride). In the former case, the "Hemisine" will be in a weak saline solution. As solutions of "Hemisine" and of all supra-renal preparations readily oxidise, it is advisable to prepare only the exact quantity required, and to keep the tube carefully corked. "Soloid Hemisine," 0.005 gramme, is issued in tubes of 6 by Messrs. Burroughs, Wellcome & Co., Snow Hill Buildings, London, E.C., 481 Kent-street, Sydney, and 43 Long-street, Cape Town.

"*Tabloid*" *Brand Valerianates.*

THE valuable therapeutic properties of the valerianates in certain conditions not readily amenable to treatment are so well recognised that they are widely prescribed by the medical profession. The principal objection to their use has been their objectionable odour and taste, which are specially obnoxious to the sensitive and nervous persons for whom it is so frequently necessary to prescribe these drugs. In order to overcome these drawbacks, "Tabloid" products of the valerianates have been introduced by Messrs. Burroughs, Wellcome & Co., of London. The characteristic odour is obviated by coating the product with sugar. Quinine valerianate exhibits the valuable antispasmodic sedative and stimulant properties of valerian in conjunction with the active effects of quinine. It improves the appetite, aids digestion, and, acting as a carminative, diminishes spasm and the pain depending on it. Quinine valerianate is also serviceable in some intermittent and spasmodic affections, and is a successful remedy in cases of nervousness and irritability associated with chorea, as well as in the treatment of various symptoms occurring in hysterical subjects, such as hemicrania and palpitation. It is sometimes prescribed in cases of diabetes. A valuable combination, which has long been esteemed as an efficient tonic, is that afforded by the association of the valerianates of iron and zinc with the quinine salt. "Tabloid" Three Valerianates enables this widely useful prescription to be employed in cases where the disadvantages of former methods of administration have rendered it inadmissible. When a nerve tonic combined with a sedative is indicated, zinc valerianate is usually employed. It is found to be of special service in nervous headache. It is claimed that zinc valerianate acts as an anthelmintic, and for this reason it may be useful in the treatment of spasmodic disorders in children, due to worms. This agent is also employed in nervous cough and whooping cough. Combined with iron and arsenic, zinc valerianate is extensively prescribed in the treatment of the hysteria of young anæmic women, and in the nervous affections associated with chlorosis. The following are the "Tabloid" preparations of the valerianates (B. W. & Co.):—

"Tabloid" Iron Valerianate, gr. 1 (0.065 gm.). Sugar-coated. Direction—One or more, swallowed whole, with a little water.

"Tabloid" Quinine Valerianate, gr. 2 (0.13 gm.). Sugar-coated. Direction—One to two, swallowed whole, with a little water.

"Tabloid" Three Valerianates. Sugar-coated. ℞ Quininæ Valerianatis, gr. 1 (0.065 gm.); Ferri Valerianatis, gr. 1 (0.065 gm.); Zinci Valerianatis, gr. 1 (0.065 gm.). Direction—One, swallowed whole, with a little water.

"Tabloid" Zinc Valerianate, gr. 2 (0.13 gm.). Sugar-coated. Direction—One, swallowed whole, with a little water.

"Tabloid" Zinc Valerianate with Iron and Arsenic. Sugar-coated. ℞ Zinci Valerianatis, gr. 2 (0.13 gm.); Ferri Redacti, gr. 1 (0.065 gm.); Acidi Arseniosi, gr. 1/60 (0.00108 gm.); Extracti Gentianæ, gr. 1 (0.065 gm.). Direction—One, swallowed whole, with a little water.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. X.—*On the Need for Family Care of Persons of Unsound Mind in Ireland.*[a] By CONOLLY NORMAN, Medical Superintendent, Richmond Asylum, Dublin.

THE question of the adoption in Ireland of family care as a method of dealing with mental unsoundness is at once highly academic and highly practical: academic, because this mode of treatment has never been hitherto attempted in that country; and practical, because it may be said, with a slight modification of a familiar line, that no nation wants it so much. Perhaps all this is only another way of saying that the question stands exactly in that position in which any earnest and vigorous reformer likes to take a subject up. The crop is ripe, but no sickle has yet swept over the field.

How fresh the topic is in Ireland may be indicated by the remarkable discussions that have been lately going on with reference to the public treatment of the insane in that island. Ireland is probably the poorest country in Europe, and the country in which the great majority of the population live under the least complex and the least highly-developed conditions. Circumstances of various kinds, however, have brought the lunacy problem into extreme prominence—a prominence rarely obtained for it in any other comparatively primitive country. The complete transference of power in respect of matters of local government from one portion of society to another, the latter having been until recently quite unaccustomed to the responsibilities of self-government, has tended to bring prominently before the public mind a number of social problems that were hitherto hidden more or less below the surface. The comparative accuracy of modern statistics, the effect of the accumulation of patients in asylums under improved management, and a possible real increase in occurring insanity, due to the indirect results of excessive emigration, have together contributed to bring about this curious state of affairs, that the number of insane who are registered is rapidly and largely increasing, while the general population is decreasing. According to the most recent official calculations, there is in Ireland one person of unsound mind to every 178 of the general population. Meanwhile, wealth—at least, such wealth as is represented by the margin available for charitable purposes—is not increasing, while the struggle for existence is daily becoming more keenly felt.

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[a] A paper read at a meeting of the International Home Relief Congress, Edinburgh, June, 1904.

Some counsels that have been suggested in this matter savour of desperation. It has been held, apparently on the authority of an illustrious literary man and distinguished doctrinaire politician, that the asylums themselves are responsible for the increase of insanity, inasmuch as by keeping alive and curing persons of unsound mind they have led to a degeneration of the race. There are even nebulous hints floating in the air that it might be well to render those who have been insane incapable of propagating the species so as to lead to a greater freedom from disease in succeeding generations. There is a pretty general and strong prejudice against asylums conducted on modern lines. Those who do not openly call them nurseries of insanity, at least look upon them as places where the mentally affected receive treatment which is unduly costly in proportion to the advantage accruing to the rest of the population. If we had not learned of recent years to regard as entirely too narrow that view of development which looks upon natural selection as being the only instrument to bring about the immediate betterment of the physical condition of the existing generations we might have some sympathy with the sentiment which would dictate that the insane should be practically left uncared-for, and should be allowed to perish by natural processes. But the more extended and philosophical view which we now see to be the only tenable one forces us to conclude that the care of the unfit subserves some great ulterior developmental end, and is—to take no higher view of it—the necessary step towards the attaining of a more perfect social state. Indeed, that it should be necessary to discuss this aspect of the matter at all is surprising, and appears to show the chaos of public feeling on such topics in my country.

It may be said that these are themes which it is unnecessary to more than hint at in addressing my present audience, and in fact I have merely referred to them as indicating that the question of reform in the treatment of the mentally afflicted is ripe for consideration in Ireland, and that the present is probably a favourable opportunity for ventilating the subject. It is easier to obtain a hearing for the suggestion of humane and advanced methods when the public is interested in the whole question, even though wild doctrines are being hurtled abroad, than in times when the public is apathetic.

Now, the existing state of affairs is this: the local governing bodies have determined to build no more expensive—that is to say, modern—asylums, and yet it is felt that, pending the operation of more drastic measures, some provision must be made for the increasing numbers of the insane. When the Irish Local Government Act was passed in the year 1898 its authors, acting apparently on very insufficient information, and having accepted very hasty and immature views, were unfortunate enough to adopt an enactment whereby a rate-in-aid, amounting to 2s. per head per week, was to be available for insane persons who were chronic and harmless, and who were to be maintained in disused workhouses or other suitable buildings apart from the existing lunatic asylums. The amount of rate-in-aid for these new institutions is just half of that which is available for the existing asylums, and thus the suggestion is made by the Government that a number of asylums should be started in the country at about half the cost of the existing institutions—such new asylums to be filled by the class called chronic and harmless. If some better scheme be not adopted within a few years there can be little doubt that these new cheap and inferior asylums will spring up all over the country, that they will fail to work satisfactorily, and that they will eventually be either suppressed or profoundly modified. There can be no doubt but that in the meantime they will have done an immensity of harm. It is, therefore, the more necessary at present to suggest some other mode of dealing with the existing problems—some mode which will not revolt the public conscience by insufficient humanity, and will also not prove too great a drain on the public purse in a very poor country. It would ill become a member of our specialty to encourage in any way the popular prejudice against asylums. In the first place, no one who reflects can fail to see that this prejudice is really to a large degree merely a survival, under slightly modified form, of the old prejudice against the insane themselves. The deep instinctive dread and hatred of insanity and of the insane is at the present day recognised as a thing which cannot be avowed, but those who one hundred years ago would have been loudest in giving expression to these feelings, and must now conceal them, satisfy the primæval instinct by abusing asylums and their directors. Besides, asylums must be accepted as an evil, if you will, but a necessary and inevitable evil in many cases. When all this has been said, the fact remains that there are a great many objections to be made against what we may call asylum life. The natural unit of society is the family. Existence in large institutions, which are not, and cannot, be modelled on family life, is an unnatural one. Such existence is uninteresting, monotonous, and irksome. Its tendency is to drive the mind in upon itself, to produce unhealthy brooding and dreaming, and to deprive the individual of the ordinary interests that belong to his fellow-creatures. The association together of numbers of persons with few interests in common, and who are not bound to each other by the close, and yet elastic, tie of family affection, is irksome, and tends to develop bad feeling and selfishness. Now, these drawbacks are common to all public institutions, and are not entirely peculiar to asylums. They are felt not only by the patients, whom the public charity is intended to benefit, but they are felt by the staffs who administer the charity. Among the latter, petty jealousies, suspicions, and all kinds of rancorous ill-feelings are apt to arise, and are surely fostered by the peculiar conditions of institution life. Association without the most perfect harmony engenders an irritability which is hostile to all good feeling. It is proverbial that this condition of affairs springs up even amongst the most high-minded. There is an old Celtic story of how St. Patrick, bestowing a bishopric on a favourite disciple, told him he was sending him to a See so situated that they would not be too far apart to meet occasionally, nor too near to remain friends. It is possible that our patients often feel the injurious effects of institution life less than might be expected, because their condition is an abnormal one already, but no one can have watched the effects which supervene in old nurses and attendants without being painfully aware that in many cases a marked deterioration of disposition is the consequence of the unnatural, monotonous, and trying nature of their surroundings and of their calling. So much have I myself been struck by this that I have long held that the most perfect way to obtain asylum service at its best would be by the organisation of a short-service system, whereby the great majority of the staff—excepting, of course, those who have shown special aptitude and special staying power—would be young and fresh. I observe that Professor Kräpelin would appear to have arrived at a somewhat similar conclusion, for I have recently seen him quoted as holding that an asylum attendant's period of service should be limited to ten years. I dwell upon this point not only as showing that there is something un-hygienic in the moral atmosphere of large institutions, but also because it seems to me to require being pointed out that as our attendants are to a large degree the instruments by which we work upon our patients, if the conditions of asylum life are unhealthy we will find ourselves in the end working with blunted and rusty tools.

There are then weighty reasons for avoiding, as far as is possible, the accumulation of patients in asylums, and the multiplication of those edifices. When and where an asylum must be built, it ought to be built and managed and manned in the very best possible manner, bearing in mind that its object should be to form a hospital for the cure of the curable, for the treatment of the sick, for the safeguarding of those who cannot be allowed to be at large, and for the amelioration and thorough study of the condition of such patients as can eventually, under proper regulations, be restored to family life with a fair measure of safety, though uncured. It is the class to whom I have last referred who mainly tend to accumulate, and taking into account the well-known money saving which can be accomplished by a system of family care, it would appear that such cases can be treated economically, and yet with an avoidance of the peculiar evils that are apt to arise in connection with asylums. It is much to be regretted that in the framing of the Irish Local Government Act this question was not brought before those who were responsible for that statute. The alternative to the ordinary asylum contemplated in the present Irish law is an institution to be run at half price. Economy is to be obtained by diminishing medical supervision to something approaching a vanishing point, and by lessening the staff to such a degree as would probably render efficient care unattainable, and would put nursing out of the question. The housing of the insane in public institutions in Ireland has been described as extravagant, palatial, and so forth. We may yield this point because it is very improbable that any of the new second-rate asylums will be able to work without such modifications as will bring them very near, if not quite up to, the majority of the existing asylums whose architectural advantages have been so much exaggerated. But the new second class asylums being deficient in supervising staff, being carefully lopped of every extravagance, will be places where no occupation and no amusement can be provided for the inmates at the proposed cost. Such places would have every disadvantage belonging to an asylum without any of the safeguards or any of the ameliorating agencies that modern science and modern humanity have found to be required. It is impossible to say precisely what class of the insane were intended for these particular institutions, and it would appear that the framers of recent enactments have the most shadowy ideas on the subject. If the chronic and harmless mean the working population of our asylums it would be a manifest, gross, and intolerable injustice that these poor people should be subjected to all the discomforts of asylum life without any of its ameliorations, as would be the case in a second-rate cheap asylum. If, on the other hand, the chronic and harmless include the old and feeble and bed-ridden, I submit that, from a merely humanitarian point of view, these people require more care than the more recent and acute cases, who, by their recovery, are apt to give a better result for the money spent.

I feel that in saying so much on the general aspects of this question I am undertaking a task that may seem superfluous to most of my present hearers, but I enter upon these details in order that the position of the question in my country may be thoroughly intelligible. Speaking here, and speaking to you, I need not adduce any arguments as to the feasibility of the family care of the insane. It is probably not too much to say that the family care of a large section of the unsound of mind has proved possible, beneficial, and economical in every country where it has been intelligently and conscientiously attempted. In any place where the endeavour has been made up to the present success has followed when anyone has been found who has taken up the subject, as Dr. Féré has said, " in the way he would take up his own business."

There are in Ireland three practical difficulties, not one of which is insuperable, if one can judge from experience elsewhere. The first may be called official *vis inertiæ.* In all public departments there is, of course, a tendency to go on doing in the future what has been done in the past. Irish officials may, perhaps, be forgiven for carrying this tendency further than other people on account of their peculiarly isolated and insecure position. There is, unfortunately, no body of public opinion in the country which is sufficiently intelligent and disinterested to act as a motive force in any particular direction on such subjects as the conduct of great public charities. The second difficulty arises from the fact that the bodies which now carry on local government in Ireland, being new to their duties and responsibilities, are not very easy to move in the direction of something which they may conceive to be risky and unpopular. Unpopular with the uninstructed bulk of the people such a measure as family care of the insane would surely be at first, and it would, therefore, seem much easier and more popular for the local bodies to go on constructing or adapting asylums on a more or less economical plan instead of diminishing the occupation of these institutions by the adoption of family care. The third difficulty which I see in the way is the difficulty of finding suitable locations for our patients. The Irish peasants, who form the class from whom most of our patients are drawn, are very poor, and, therefore, would be willing enough to receive the help which the payment for a patient might bring them. They are very kindly and very tolerant of the infirm, and would, therefore, I think, make good hosts for the insane, but they are, unfortunately, themselves probably among the worst-housed—if not the very worst-housed—of the populations of Western Europe. It must be said that things are slowly bettering themselves in this respect, and there is every reason to hope that the betterment will be more material and quicker in the near future. For the present it seems to me that this is the most serious difficulty in the way of family care in Ireland. The other two difficulties, I think, would be more readily overcome. The County Councils could eventually be persuaded that their interests and those of the insane are identical in these matters, and if public opinion favourable to the experiment can be evolved it is to be hoped that the official *vis inertiæ* of which I have spoken would not prove an impassable barrier. One advantage we would have in attempting family care in Ireland—and this no small advantage in beginning anything—namely, that there is nothing to be undone. Sir Arthur Mitchell's book on the "Treatment of the Insane in Private Dwellings in Scotland" has shown us that talent and industry applied in this humane cause were capable, in the hands of the Scotch Commissioners, of drawing family care out of the slough of abuses in which it had nearly been overwhelmed. No such difficulty exists in Ireland. Some foresight and prudence will, no doubt, be required in the inauguration of such a system. Care must be taken not to let the zeal of beginners outrun all support from popular opinion, and every endeavour should be adopted to avoid the occurrence of any scandals or risks in the earliest stages of the experiment. These precautions are, of course, easier to talk about in an abstract way than to carry out practically, but they are only such things as are necessary at the beginning of every fresh enterprise.

In my opinion, family care of the insane in Ireland should be organised in connection with the district asylums. Only cases that have been studied in an asylum, that are thoroughly well known to the medical staff, should be sent out to family care. I am not one of those who believe that a perfectly ignorant person is likely to form as intelligent a judgment on a difficult and risky subject as one who has devoted his time and attention to that subject. Whatever we do there is an element of risk in the family care of the insane just as there is an element of risk in the asylum care of the insane, and in either case the chief responsibility will best rest upon the person who is best acquainted with the peculiarities of his patient. Provision should be made for the power of returning the patient to the asylum whence he has come should his physical or mental state demand such a course, or should his location prove, in the opinion of the authorities, to be in any way unsuitable. Provision should be made that the patients be visited by the Medical Superintendent in the homes of their hosts at such intervals as may be deemed suitable, and also occasionally irregularly. Provision should also be made by which the patient should visit the asylum and report himself if required to do so at stated intervals, following therein the example of the Berlin system. An arrangement of this kind could be effected with the least alteration in the existing law. There is an enactment in Ireland at present whereby a patient can be discharged from a district asylum on trial, while his maintenance is met from the asylum funds for the period of one month. Of this enactment I myself make frequent use, but it is manifestly insufficient even for its present purpose—the period of one month's trial being mostly quite inadequate. An extension of this provision, with an arrangement that the period of trial could be from time to time renewed after expiration should the patient still remain insane, would enable patients to be, practically speaking, boarded out in family care. Of course, further and remoter supervision of patients in family care, together with supervision of their physicians, would be called for, just as is the case with patients in asylums. No doubt an addition would be requisite to the staff of Commissioners, or, as they are called in Ireland, Inspectors, but that would probably be desirable in any case, since those officers are numerically inadequate to the duties they are now called upon to perform, although, perhaps, not so preposterously inadequate as their colleagues in England. The proposal to send out patients from the district asylums into family care, and retain them under the general supervision of the medical staff of the asylum, would also probably involve in most cases some increase of that staff. The economy which could be effected in maintenance by family care would probably be sufficient to cover the additional cost of inspection that would be involved, and also to leave a not inconsiderable margin. With regard to the total saving, however, I am not inclined to encourage a hope of a favourable balance on the maintenance account, although I believe that there will not be a deficit. My reason is that it seems to me that a great number of the patients whom we could send out into family care, and to whom we would give the pleasures of modified liberty and of family life in lieu of the supposed luxuries of an asylum, would be those very patients who would be most useful to us in the internal working of the institution. The loss of their services would either involve the employment of more paid attendants, or the purchase of more ready-made goods, or both, and a certain increase of the asylum maintenance account on this head must be expected.

I have not said anything of the supervision or visitation of the patients in family care by Poor Law Medical Officers. I am doubtful as to how far it is safe anywhere to depend in any degree on what I fear must be a very perfunctory duty, and I am confident that such dependence must necessarily limit very greatly the cases in which family care might be utilised. However this may be elsewhere, and under other conditions, no one who knows what the Irish Poor Law Service is, and how entirely overworked its medical men are at present, can imagine that any supervision it would be in their power to bestow on the insane in family care would be sufficient. There is also another reason why it is undesirable to associate the Poor Law Service with this work. In Ireland our public patients are not paupers. They are not brought to the asylum by relieving officers. They are sent to us from the workhouse only if they happen to have for some other reason obtained admission to that institution. The service of lunacy in Ireland is not a branch of the Poor Law Service, and it is very desirable in the interests of our patients that it should never be. It is true, unfortunately, that insanity is the most pauperising of diseases, but as we have been able hitherto to manage our insane, both with regard to fiscal requirements and otherwise, without stigmatising them with the quite unnecessary brand of legal pauperism, it is very desirable that we should continue to do so. This was clearly seen by Sir Arthur Mitchell and his Commission who, reporting some years ago on the reforms required in relation to Irish lunacy, strongly deprecated the amalgamation of the two services. To endeavour now to associate pauperism and mental unsoundness would be a distinctly retrograde step.

ART. XI.—*Suggestions for the Prevention of Puerperal Infection in Private Practice.*[a] By JOHN W. BYERS, M.A., M.D., M.A.O. (*Hon. Causâ*); Professor of Midwifery, Queen's College, Belfast; Physician to the Belfast Maternity Hospital; and Physician for Diseases of Women to the Royal Victoria Hospital, Belfast; Examiner in Obstetric Medicine and Gynæcology to the Royal University of Ireland.

ONE of the special advantages of the annual meetings of the British Medical Association is that it affords an opportunity of hearing the views of medical men from different places on the various questions that may be brought forward for discussion in the Sections, and surely no subject is of greater importance—alike from a national as from a professional point of view—than that of the prevention of those conditions—so often fatal—which are due to puerperal infection.

Since the introduction of the modern antiseptic and aseptic methods in the obstetric art, an enormous improvement has taken place in the general results of midwifery practice. This is seen especially in the maternity hospitals. In my student days, and even in the early years of my practice, maternity hospitals were regarded by the public with the greatest suspicion. Puerperal fever was constantly breaking out in them, and, owing to this fact, their wards had frequently to be closed, and many members of the profession were in favour of abolishing altogether such institutions. Now all this changed, and there is no place in which a woman can be more safely located for her confinement than in a properly conducted maternity hospital. Of the many advances I have seen since I joined the Profession nothing is more striking than the change brought about in the results of obstetric practice in lying-in hospitals by the adoption of the antiseptic and aseptic methods.

The following statistics from two Irish maternity hospitals (at one of which I received my midwifery practical training, while I am now on the medical staff of the other) are noteworthy:—

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[a] Paper read in the Section of Obstetric Medicine, Oxford meeting of the British Medical Association, July 28, 1904.

1. *Mortality at the Rotunda Hospital.*—During the last two years (ending November 1st, 1902, and November 1st, 1903) there were 3,370 intern cases with 15 deaths, and 4,233 extern cases, with 9 deaths—that is, out of a total of 7,603 there were 24 deaths, or a mortality of 0.32 per cent., and of these 24 deaths 8 were due to sepsis (puerperal infection)—that is, a mortality of 0.1 per cent.

2. *Mortality at the Belfast Maternity Hospital.*—During the last two years (1902 and 1903) there were 638 intern cases, with 2 deaths, and 555 cases in the extern maternity, with 2 deaths—that is, a mortality of 4 in 1,193 cases, or 0.33 per cent., and none of the deaths were caused by puerperal infection.

Adding together the cases from these two Irish maternities, we have a total of 8,796 cases, with 28 deaths, or a total mortality of 0.31 per cent., and a mortality from sepsis (puerperal infection) of 0.09.

At both of these institutions midwives and students receive their practical training. The Rotunda Hospital in Dublin is the largest maternity in the British Empire. The Maternity Hospital at Belfast is a very old one with sixteen beds and an extern maternity; but a new and greatly enlarged institution, with every modern appliance, is at present in the course of erection in that city, and will be ready next year. It will be of the greatest assistance in the training of students and midwives in practical midwifery.

When we turn to private practice the brilliant results obtained in maternity hospitals, it will be seen, have not followed. Here are the latest available statistics on this question, kindly given me by the Registrars-General of England, Scotland, and Ireland. I append them in the form they were sent:—

ENGLAND AND WALES.

Death-rates from Puerperal Fever (under which term are included deaths recorded from Puerperal Septicæmia, Puerperal Pyæmia, Phlegmasia Alba Dolens, and Puerperal Fever not otherwise defined) in England and Wales in the years 1900, 1901, *and* 1902.

Year	To a million Females living	To a million Persons living
1900	121	63
1901	122	64
1902	118	61

Figures for 1903 not yet available.

DEATH-RATE IN SCOTLAND FROM PUERPERAL SEPTIC INFECTION IN THE YEARS 1900 AND 1901.

Year	Deaths from Puerperal Septic Infection	Death-rate per 100,000 of Female Population	Death-rate per 100,000 Births
1900	225	10	171
1901	287	13	217

The figures for 1902 and 1903 are not yet available.

REGISTRATION OF DEATHS, IRELAND.

TABLE (A)—*Showing for Ireland the number of Deaths from Puerperal Septic Diseases (including Phlegmasia Alba Dolens) of females aged* 15 *and under* 55 *years, and at the undermentioned age-periods comprised in these ages, during each of the three years* 1900–1902.

DEATHS FROM PUERPERAL SEPTIC DISEASES IN IRELAND.

Year	Ages: 15 and under 55	AGE-PERIODS				
		15 and under 20 years	20 and under 25 years	25 and under 35 years	35 and under 45 years	45 and under 55 years
1900	235	2	28	131	72	2
1901	230	3	30	121	74	2
1902	220	7	25	112	73	3

Table (B)—*Showing the rate per* 10,000 *of the number of Females in Ireland of the respective ages, according to the Census of* 1901, *represented by deaths from Puerperal Septic Diseases of Females aged* 15 *and under* 55 *years, and at each of the age-periods as shown in Table* (*A*).

Year	Ages: 15 and under 55	Age-periods				
		15 and under 20 years	20 and under 25 years	25 and under 35 years	35 and under 45 years	45 and under 55 years
1900	1.853	0.084	1.234	3.902	2.892	0.091
1901	1.813	0.126	1.322	3.604	2.972	0.091
1902	1.734	0.294	1.102	3.336	2.932	0.137

Table (C)—*Showing the rate per* 10,000 *of the number of Married Women in Ireland of the respective ages, according to the Census of* 1901, *represented by deaths from Puerperal Septic Diseases of Females aged* 15 *and under* 55 *years, and at the age-periods as shown in Table* (*A*).

Year	Ages: 15 and under 55	Age-periods				
		15 and under 20 years	20 and under 25 years	25 and under 35 years	35 and under 45 years	45 and under 55 years
1900	4.997	11.306	9.257	8.549	4.616	0.155
1901	4.891	16.959	9.918	7.896	4.744	0.155
1902	4.678	39.570	8.265	7.309	4.680	0.233

Figures for 1903 not yet available.

The number of deaths from puerperal septic diseases in Ireland also represent 23.3, 22.8, and 21.6 per 10,000 births registered in the years 1900, 1901, and 1902, respectively, and 5.3, 5.2, and 5.0 per 100,000 of the estimated population of both sexes and at all ages.

In my Presidential Address, delivered at the opening of the Section of Obstetric Medicine and Gynæcology at the annual meeting of the British Medical Association in Cheltenham, July 31, 1901, I gave the statistics of mortality from puerperal fever in England and Wales, Scotland, and Ireland, for the five years 1895-1899, inclusive.

While the above figures give the mortality in obstetric practice it must always be recollected that there is another test besides (1) absence of mortality, as an indication of successful midwifery work, and that is (2) absence of morbidity, by which we mean milder forms of puerperal infection, recognised clinically by slight feverish attacks, and having underlying pathological lesions such as cellulitis, salpingitis, or salpingo-ovaritis, and slight attacks of phlegmasia alba dolens—conditions which lead sometimes to secondary sterility, and often necessitate subsequent gynæcological treatment.

The difference in the results in these two sets of statistics indicates that the chief mortality takes place outside of maternity hospitals—that is, in general practice; and it is corroborated by Dr. W. Williams (Medical Officer of Health to the Glamorgan County Council), who, in his Milroy Lectures—"Deaths in Childbed, a Preventable Mortality"—recently delivered before the Royal College of Physicians of London, and published in the *Lancet* of June and July, 1904, shows "that during the last twenty years, when a more accurate registration has been adopted, upwards of 40 per cent. of the total childbed mortality has been caused by septic diseases." The twenty years are from 1881 to 1900. It is also a remarkable fact that during this period of undiminished puerperal mortality sanitation has made rapid strides, and that both the occurrence of, and the mortality from, such diseases as typhoid and tuberculosis have gradually diminished, while "the mortality of lying-in institutions, both in their internal and external departments, has also decreased to the vanishing point" (Williams). These facts—as well as the circumstances pointed out by Dr. Williams that notwithstanding the precautionary measures adopted in general midwifery practice, 4,000 mothers are annually lost in England and Wales (speaking generally, it may be said the deaths from accidents of childbirth and puerperal fever, as shown by the statistics of death registration, amount to about 4.7 per 1,000 births, and almost one-half of these are due to puerperal infection; for example, there were in 1901 in England and Wales 2,079 deaths from puerperal fever, and 2,315 from other causes—accidents, &c.)—as well as the statistics I have given naturally raise the question, Why is it that the results of private midwifery practice are not so good as these obtained in maternities? I may be allowed to answer this by asking three questions:—

1. Is the practical teaching of students and midwives in obstetric work as thorough as it should be? Are midwives taught to appreciate fully all that is now known as to the causation of puerperal infection, and the grave responsibility that this knowledge brings upon those engaged in that line of practice? Why is it that the licensing bodies demand from students evidence of having had a clinical training and a practical experience in midwifery so much less than what is required in the subjects of surgery and medicine? Is there not a risk that, owing to the introduction of so many new subjects in the medical curriculum, some of the older branches, which lie at the foundation of practice, such as obstetrics, are being neglected?

2. Are we as careful (and this applies to both nurses and medical men) in carrying out the details of the antiseptic and aseptic methods in private practice as in maternity hospitals?

3. Is there not often too much meddlesome interference in obstetric practice?

Before venturing to make any practical suggestions for bringing the results of private midwifery practice more into line with what is now the rule in maternity hospitals it may render this task easier if we first consider certain facts which throw a light upon the nature of puerperal infection.

(1) In at least 75 per cent. of midwifery cases labour is a natural physiological process, occurring in such a manner that nothing more than a certain amount of care—expectant watchfulness—is required, and no interference is needed.

(2) A woman who delivers herself spontaneously, and

who has never been examined internally, rarely has any signs of puerperal infection. Leopold was the first to show this, when he pointed out that at the Dresden Lying-in Hospital of a series of 248 cases who were delivered without medical aid, who were neither examined, touched, nor syringed, 98 per cent. had no fever during the puerperium. Five only had febrile symptoms, and they were slight. This observation has since been frequently confirmed by others.

(3) Women who enter a lying-in hospital after delivery—that is, those confined on the way to the hospital—rarely suffer from puerperal infection, because, through not having been examined internally, they have avoided the risks of having the germs which cause the disease conveyed to them. This fact has been observed frequently by those connected professionally with maternities.

(4) The uterus and vagina in a pregnant woman, who has not been examined internally, contain no pathogenic organisms, but, as has been demonstrated by Whitridge Williams, of the Johns Hopkins University, they are present on the inner surface of the labia and the margins of the hymen in at least 60 per cent. of pregnant women, and the mere introduction of a sterilised glass speculum two centimetres in diameter, which, he points out, is no larger than the two fingers employed for examination, carries micro-organisms into the vagina in at least one-half of such cases.

(5) The results of midwifery practice become better the less vaginal examination and the more abdominal palpation is used.

(6) Vaginal examinations during labour are always attended with risk, and should never be employed unless to elicit information for the welfare of the patient which cannot otherwise be obtained by abdominal palpation. It must never be forgotten that a patient in labour who has not been examined internally is almost absolutely safe from the risks of puerperal infection.

(7) Puerperal infection is due to the introduction of micro-organisms which may be found on the patient's

vulva, her clothes, bed, instruments, and the hands and clothes of those who look after her; hence the importance of disinfection of the patient's vulva, of a clean bed and clothes, of disinfection of all instruments, and of the hands of her attendants, who should wear sterilised overalls, or clean, freshly-laundried towels pinned carefully so as to prevent their own clothes coming in contact with the patient. Care should be taken that in the case of an internal examination the hands after being disinfected do not become fouled again by touching the bed, clothes, vulva, &c., before entering the vagina. In making a vaginal examination (the vulva having been previously washed with soap and water, and rinsed with a corrosive sublimate lotion 1 in 1,000) the disinfected thumb and forefinger of the left hand are used to hold open the vagina so that the fingers of the right hand, previously sterilised, pass direct from the basin of corrosive sublimate lotion into the parts without touching the inner surface of the labia or hymen. The same care and precautions should be taken in sterilising the hands in obstetric as in surgical work. These facts suggest certain precautions which must be observed if we are in private practice to prevent the occurrence of puerperal infection:—

I. Nurses and students should be taught clearly the risks of vaginal examination and the great value and absolute safety of replacing this method by abdominal palpation. So far back as 1886, Credé wrote—"Even the simplest manipulation may cause infection. It should, therefore, be laid down and taught as a fundamental principle that internal examination of parturient women should be altogether avoided or restricted within the narrowest possible limits. It can be very well replaced by external examination. To instruct their pupils as thoroughly as possible in this method is the present and future duty of teaching institutions." Have we teachers done our duty in this respect? Is it not too often the case that reliance for diagnosis is placed on vaginal examination alone, employed as a mere matter of routine, to see how the labour is proceeding, while the danger involved in such a method is not fully realised? I can only say—as a personal contribution—that I was taught by others the vaginal method, and that subsequently I taught myself the abdominal plan of examination, and the more I use this latter method the greater I appreciate its value. The man or woman who employs this method will, I am confident (and such has been the experience with students in maternities), be more accurate in his or her diagnosis, and will rely less and less on the vaginal route. In many confinements during the past few years I have not made a single vaginal examination, as the external plan gave all the information required, and the only thing one cannot yet be sure of is prolapse of the cord when the membranes rupture. If in a normal case an internal examination is to be made at all the best time is just after rupture of the membranes. I regret very much that in the "Directions to Midwives," framed by the Central Midwives' Board, no reference at all is made to the importance of abdominal palpation, although candidates are required before being admitted to an examination (pages 8 and 24, Rules of Central Midwives' Board) to produce a certificate certifying that they have attended and watched the progress of not fewer than twenty labours, making abdominal and vaginal examinations during the course of the labour, and personally delivering the patient; and among "Duties to Patients," No. 8 (p. 15), "no more internal examinations should be made than are absolutely necessary," is ambiguous, as it raises, without answering, the question, How many are absolutely necessary? and, by omitting any notice of the abdominal method, it tends to emphasise the fact that the vaginal examination is the only method to be employed. I now meet often at confinements nurses who are wonderfully skilful in abdominal palpation, and personally I prefer to recommend to my patients midwives who make no vaginal examinations. Dr. Purefoy, whose term of office as Master of the Rotunda ended on October 31st, 1903, and who very kindly supplied me with the statistics from that institution, writes me: "In most of the cases in the hospital *no* vaginal examination is made; in some, *one* is made. Where necessary, of course, this is repeated." I am not prepared to deny that a woman who has never been examined at the time of her confinement may subsequently develop sepsis. I have seen such cases, and Dr. Purefoy tells me that at the Rotunda "in some of the fatal septic cases no vaginal examination had been made before the trouble arose"; but such cases are extremely uncommon, and may be due (1) to the introduction of the gonococcus shortly before labour; (2) contact by the patient's fingers touching the genitals; (3) contact with dirty clothes or a dirty bed; (4) Whitridge Williams' account of the bacteriology of the inner surface of the labia minora and hymen shows how easily a wound there in a natural labour might allow pathogenic organisms to enter. Still, admitting all this, the results of modern maternity hospitals show beyond question that vaginal examinations are the main source of puerperal infection.

II. Nurses and students should be taught more and more clearly the cause of puerperal infection—viz., that it is introduced from without, and also the importance of keeping themselves and the patient aseptic, and how extremely easy it is for the disease to be introduced.

III. It should be clearly recognised that in at least 75 per cent. of the cases labour is a natural process not to be interfered with, and that, as has been well stated by a recent writer (Edgar):—"The whole process of labour, properly considered, is a conservative process, the tendency of which is to prevent sepsis, and it should be our aim not to thwart this process or supplant it by methods of art, but to follow and aid it, interfering only when, for one reason or another, the resources of nature prove inefficient." It was a well-known saying of the older school of obstetricians that "meddlesome midwifery is bad," and surely vaginal examinations, unless when clearly indicated, the uncalled-for use of the forceps, early rupture of the membranes, douching unless under very special circumstances, and any interference with the third stage of labour (such as manual removal of the placenta), are all examples of meddlesome midwifery. When, however, interference is necessary during the course of labour, the same precautions should be taken as regards patient, instruments, and our hands and arms as are now employed in abdominal operations. Attention has been drawn by several writers recently to the midwifery bag as being a "weak point in the obstetric defence of the woman in labour against the assaults of sepsis" (Ballantyne). I can recommend the following plan, which I have used for the past five years with the best results:—After the use of the forceps or any other instrument they are carefully washed with soap and water and a nail-brush, dried and rolled up in a towel or paper, and brought home without being replaced in the obstetric bag. They are subsequently sterilised at home by boiling, dried with a sterilised towel, and placed in a sterilised bag, which is put in the large midwifery bag. When required at a confinement they are taken out of their own sterilised cover and placed in boiling water before being used.

There are three other precautions which are of considerable importance as preventing indirectly the occurrence of puerperal infection:—

1. The careful general examination of pregnant women is important, so that at an early date we may detect a flaw in any of the organs (heart, kidneys, lungs), the knowledge of which may lead to the adoption of a judicious prophylactic treatment, and so maintain the patient's strength, and health, and resisting power.

2. A few weeks before the expected date of the confinement—especially in a primipara—a careful abdominal examination should be made, so that we may learn the presentation and position of the fœtus, amount of liquor amnii, presence or not of an abdominal tumour, and, if there is the least suspicion of deformity, the pelvic cavity should be measured.

3. The immediate repair of any laceration of the pelvic floor following delivery is a most important point in the prevention of puerperal infection.

Such in brief are the suggestions which, if fully and fairly carried out, would, I venture to hope, soon make a marked change in obstetric practice, and bring the results of private midwifery work more into line with the brilliant records now achieved in properly conducted maternities.

Art. XII.—*Some Remarks on the Epiphyses of the Long Bones, and their Bearings on the Operation of Resection.*[a] By John Knott, M.A., M.D., Ch.B., and Dipl. Stat. Med. (Univ. Dub.); M.R.C.P.I.; M.R.I.A., &c.

No surgeon of the present day can afford to ignore the importance of a thorough knowledge of the position, growth, and (final effacement by completion of) ossification of the various epiphyses of the growing human skeleton. And it is interesting to note that it constitutes a department of science which was the very latest to concentrate the serious attention of either anatomical investigator or operating surgeon. The resection of joints is, indeed, an operation of comparative juniority: a rather late invention—or, more probably, a re-discovery of knowledge and practice which had been lost during the middle ages. Before the discovery of the methods of general anæsthesia, the operation of resection was far too prolonged a process of torture to permit a possibility of its wide diffusion. And during the period which elapsed between the introduction of anæsthesia into surgical practice and the employment of antiseptics, the opening of the large joints—especially that of the knee, for which the operation was most frequently indicated—proved far too dangerous to limb and life.

The net result of the conditions associated with resection of joints in pre-anæsthetic times was that the great object of the operator was to hasten through the steps of the procedure with the maximum degree of velocity. Accordingly, the details were mostly swept over in darkness; while digital dexterity and rapid utilisation of rule-of-thumb were the factors which were most conducive to the consent of the patient, the recognised brilliancy of the procedure, and even to the degree of its ultimate success. No thought, or very little, was taken for the position of epiphysary lines—even for a considerable time after their overwhelming importance with regard to determination of osteal longitude had become a recognised item of physiological anatomy.

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[a] Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, May 6, 1904.

The growth and development of the osseous system constituted one of the latest domains of anatomical investigation. It is of essentially modern origin; a characteristic study of the age which had learned to utilise the microscope, and had learned to formulate the facts of the associated science of embryology. The practice of even crude dissection of the human body was very limited during the middle ages, as all who possess an even elementary knowledge of the history of our profession must know. It cannot be said to have borne ripe fruit before the days of Andreas Vesalius, who surely deserves to be credited with the founding of the modern science of (human) anatomy. But, even long after his time, and with comparatively scanty material for investigation, the curiosity (or the energy) of the anatomist seems to have been satisfied (or exhausted) when he had reached the unmoving bed-rock of bone. Penetration of the latter offered no special items of information; nothing more than a few broad and plain facts, which could be transmitted from hand to hand with the greatest possible ease.

The limitation of osteological acquirement in the older centuries are strikingly shown by such items as:—

The prevailing popular belief that every man had a rib less than a woman, which the famous author of the "*Religio Medici*" thought it desirable, so late as the year 1672, to try to confute. His discussion of the subject opens with the following paragraph, which throws an interesting side-light on the scientific thought of that date—especially when the reader remembers that it was written by the most accomplished British physician of his generation:—"That a man hath one rib less than a woman is a common conceit derived from the history of *Genesis*, wherein it stands delivered, that Eve was framed out of a rib of Adam; whence 'tis concluded the sex of man still wants that rib our father lost in Eve. And this is not only passant with the many, but was urged against *Columbus* in an Anatomy of his at *Pisa*, where having prepared the skeleton of a woman that chanced to have thirteen ribs on one side, there arose a party that cried him down, and even unto oaths affirmed, this was the rib wherein a woman exceeded. Were this true it would ocularly silence that dispute out of which side Eve was formed; it would determine the opinion of Oleaster, that she was made out of the ribs of both sides, or such as from the expression of the Text maintain there was a plurality of ribs required; and might indeed decry the parabolical exposition of Origen, Cajetan, and such as fearing to concede a montrosity, or mutilate the integrity of Adam, preventively conceive the creation of thirteen ribs."

The idea of a mysterious power of resistance and survival possessed by some specimens of the tissues of the human skeleton is illustrated in the classical traditions regarding the incombustibility of the great toe of Pyrrhus, which is treated with respect by authors of such attainments and intellectual powers as Plutarch and the elder Pliny. Of far deeper and wider interest is the notion which survived down to modern times, and which may be traced backwards to Jewish, if not to Egyptian, source of thought, of the indestructibility of the terminal segment of the skeleton of the human spine. This was the *resurrection bone*—whose presence was necessary to the future re-clothing of the skeleton with a fleshy body, and the realisation of the vision of the prophet Ezekiel before entrance into a future life. The belief is embalmed in human, and indeed in all vertebrate, anatomy by the familiar name of *os sacrum.* Its influence at a period of less than three centuries ago is shown by the biographic fact that Riolan, the famous professor of anatomy in Paris—the contemporary of William Harvey, and the most ardent and skilled of the opponents to his teaching regarding the circulation—felt so much exercised by his unsatisfied curiosity on this head that he was driven to pay a formal visit to the public executioner for the purpose of asking this very important functionary whether *he* had observed in his extensive experience of the combustion of (live) human bodies, that the ultimate osseous item of the spinal column was really fire-proof!

Quite as convincing, if not actually so startling, a proof as the above is furnished by the way in which the human pelvis was placed in the artificial skeletons of former times.

And even the anatomists of the past generation in Dublin—when Dublin possessed the foremost school of anatomy in the world—who enriched anatomical science with the rarest and most exquisite specimens of anatomical work that the world has yet seen, were for the most part rather careless about the minutiæ of osteology.

The progress of embryology—a science of entirely recent origin—demonstrated the importance of the epiphyses in the economy of the skeleton. And the introduction of the practice of resection of joints into the surgery of recent times was the means of impressing all operators with their influence—especially in the growth of the limbs. This was, however, but a gradual process. Before the introduction of general anæsthesia into general practice, the operation of resection, as already observed, was far too prolonged a process of torture to become very widely diffused.

The net result of these influences in practical surgery was that the operation of resection in the older days was rushed through as rapidly as possible—"in hugger-mugger"—and, as a necessary consequence, was carried out mostly by rule-of-thumb, and almost in the dark. While such circumstances continued to exist, the practical importance of epiphyses remained still unrecognised; indeed, as I have already indicated, the development of the bones was one of the latest domains of human anatomy to be subjected to scientific scrutiny. But since the blessings of anæsthesia and antisepsis came to render the operation as feasible as it was desirable in the growing limbs of the victims of tubercular disease, the importance of the epiphyses and, more particularly, of the epiphysary cartilages, has by degrees come to be estimated at its true value. The hopelessly unsatisfactory results obtained in cases in which the operation was performed for the relief of disease which had involved one or more of the epiphysary cartilages—in the neighbourhood of the knee-joint especially—soon impressed upon practical surgeons the importance of these structures in a diseased, as well as in a healthy, limb.

Having utilised the opportunities of my anatomical days in the collection of a very large number of bones which show the still ununited, or but partially united, epiphyses, I was led, by hearing the brilliant communication made to the Surgical Section of the Academy by Mr. Tobin on the subject of the excision of joints, to think that it might be of interest to some of the Fellows and Members to have some of my specimens brought before them. All my hearers know how rarely good specimens of epiphysary bones are met with. The bones of fœtal and early infantile existence are easily obtained from the hospital, and those of the advanced periods of life from the dissecting-room; but members of the human family are rarely found to leave their bodies unclaimed between the ages of twelve and twenty-two—a period which forms the important section of life in regard to epiphysary demonstration.

Turning now to the special bones, we may begin with the clavicle, which, as every first year's medical student learns within the initial week of his curriculum, is not a typical long bone, since it has not a (complete) medullary canal, and presents but one terminal epiphysis. (In this connection I may observe that I consider it entirely unnecessary to mention dates for the appearance of ossific centres—which necessarily vary somewhat with the individual—except in a few special instances; or to make special reference to the features of intracartilaginous or intramembranous development of bone—which, as discussed from another standpoint, would elicit some interesting items of information regarding the growth of the clavicle itself.) The macroscopic peculiarities of the ossific centres of the collar-bone are specially connected with its chronology; for the centre of the diaphysis is usually the first to appear in the skeleton, and the union of its solitary epiphysis is the last to take place. The peculiar tenuity of this unique epiphysis is such as to render the preservation of any portion, or even of its subjacent epiphysary cartilage, in the operation of excision of the sterno-clavicular articulation for well-pronounced disease, an utter impossibility. The association of ideas due to similarity of structure, which is so prone to stimulate even the unintellectual memory, must be held accountable for the existence of a "tip" which was well recognised in the School of Surgery of the Royal College of Surgeons in Ireland in my student days; and owed the popularity of its currency to the fact that it formed one of the surest passports to the favour of one of the most important examiners in anatomy and surgery. This statement of super-subtle professional information was to the effect that the general appearance of the interarticular fibro-cartilage of the temporo-maxillary articulation was like that of a "battered sixpence." Every one who knows the latter knows that it might with as much truth be said to resemble *Nelson's pillar*. But this epiphysis does certainly resemble, in outline and thickness, the used-up coin in question; and the fact that it is so seldom seen led to a confusion regarding its position, which became gradually converted into a dislocation by the presence of a corresponding interarticular fibro-cartilage. This joint presents also special interest to the comparative anatomist; as this sternal epiphysis is believed by some authorities to represent a human præ-coracoid, while the inter-articular fibro-cartilage does the omo-sternum.

Passing to the long bones of the upper limbs, we find the upper epiphysis of the humerus—formed by the coalescence of its two (or three) centres of ossification—limited by the epiphysary cartilage, which forms a small segment of a hollow sphere, whose convexity is upwards, and whose circumferential margin occupies a horizontal plane when the limb is held in the vertical position. On the inner side it approaches the obliquely-placed articular cartilage: it is only there that its presence need be remembered in connection with the operation of excision of the joint. The lower epiphysis of the humerus has till very recently been known only to the inquisitive few. It was wrongly described in all the anatomical text-books used in my student days; and all the surgical ones emphasised the anatomical blunder by giving it a supra-condyloid position, and informing their misguided readers that the obscure "epiphysary fracture" which sometimes occurs here in early life could always be distinguished from dislocation of the elbow-joint by the fact that the condyles moved with the lower fragment. Indeed, the most misty views of the position of this "epiphysary line" prevail even in the text-books of the present day. X-ray specialists have, of course, seen it; and Poland's excellent monograph on the epiphyses describes and figures it; but this knowledge has but very slowly percolated through the other strata of teachers and practitioners. The fact is that, if we are fortunate enough to procure a humerus at the proper age, we find that three of the four ossific centres which develop at the inferior extremity of this bone are just coalescing to form a thin encrusting layer of bone moulded over the lower end of its shaft, in a curve adapted to that of the articular cartilage; while the fourth is sheering off to form, during a short period, a minute separate epiphysis for the internal epicondyle, before its final junction with the shaft. The result of this arrangement—in connection with epiphysary fractures—is that such accident produces but an extremely slight diminution of the prominence of the external condyle in any case; while it removes the small tip of the internal epicondyle from the shaft, or not, according as it takes place before or after the separation of its ossific centre, from the rest of the epiphysary plate. In short, in the occurrence of the epiphysary fracture of the lower end of the humerus, the lower fragment carries with it but a minute portion of the external epicondyle, while it removes either the small projecting tip of the internal epicondyle, or—more probably—none at all, according to the age of the patient.

The extreme thinness of the stratum between the articular cartilage and the epiphysary cartilage in this position renders it, of course, absolutely impossible to remove more than a thin articular slice from the lower end of the humerus without removal of the epiphysary cartilage itself—and consequent arrest of longitudinal growth at the lower end of the bone.

The upper extremity of the ulna presents an epiphysis of considerable vertical extension. It also presents, what I have never seen described in any work on anatomy, a supplemental epiphysis placed above the main one, occupying the position of the insertion of the triceps tendon, and presenting the general appearance of a Lilliputian patella. This introduces a hitherto unrecognised item of homology between the knee and elbow joints.

The upper epiphysis of the radius is of moderate thickness, and limited by a horizontal epiphysary cartilage. The same words may be applied in a description of the lower epiphyses of both radius and ulna.

Descending to the lower limb, we find the femur presenting three epiphyses at its upper extremity and one at its lower. There is one for each trochanter, but they are of little surgical importance. That for the head is much thinner than is usually thought. It is little more than an articular meniscus, adapted to the articular cartilage, and somewhat thicker in the centre than at the margin. Accordingly, it is not possible to remove the entire articular lamella of bone by a plane section at this extremity without involving a portion, at least, of the epiphysary cartilage.

The epiphysis of the lower end of the femur is a very large one, and leaves ample scope for the excursions of the operating surgeon. And it possesses the most engrossing interest in connection with the longitudinal development of the limb. Its ossific centre is generally the only one to form within an epiphysis during intra-uterine life; and, as it normally appears within the last week or two of that important period of existence, its presence is the most reliable item of evidence of the maturity of the fœtus which can be procured in a doubtful or disputed case. Then the union of this epiphysis with the shaft of the femur is the latest of any of the bones of the limbs. And, as growth proceeds while the epiphysary cartilage remains unossified, the future gigantism or dwarfism of the (otherwise normal) individual accordingly depends more upon the behaviour of the epiphysis of the lower end of the femur than upon that of all the other segments of the human skeleton. This fact was impressed upon me with peculiar vividness by a personal experience of a night spent in the Holyhead railway station a good many years ago. I had arrived by the Euston train about 10 p.m., and the Dublin boat did not start till the early morning. Everybody soon retired for the night, and I found myself alone in the small waiting-room with no less a personage than "Barnum's *long man*," the giant of 7 feet 10 inches, who had long formed one of the special attractions of the famous showman! I was then in rather poor health, and I confess that I felt rather shy of my company—even nervous. I had had before that time a large experience in the professional training of medical students. These always form, as is well known, a very representative section of the youth of our community, which is one of exceptionally good physical development. I had then arrived at the close of my "coaching" career; and, as one of the most vivid impressions which it had left upon me was that of the fact that the biggest medical student who had ever passed through my hands, during a prolonged and varied experience, was also the biggest blackguard, I felt somewhat loath to avail myself of an opportunity of intimacy with any individual of exceptional osseo-muscular development. However, I soon found that I might have spared myself my anxiety; my waiting-room acquaintance was as gentle as a child; he was splendid company—as chatty and communicative as could be wished; and, having been all over the civilised world there was plenty of material for conversation forthcoming. The net result was that I spent on that occasion one of the pleasantest nights I can remember. And I also utilised the opportunity of observing the relative proportion of special development of the segments of the skeleton. He was (approximately) 2 feet 1 inch taller than I was; yet, as I sat beside him, his knee did not reach more than three inches higher than mine from the floor, and his head did not seem to reach more than 6 or 7 inches above mine. But I believe that his femur was fully fifteen inches longer than mine. As is, I believe, invariably the case, the mainspring of his gigantism lay in the epiphysary cartilage of the lower end of his femur; and, in the good old Fabian style, the victory was, in this (and every corresponding) case, obtained by *delaying*.

The upper epiphysis of the tibia forms a comparatively thin lamina; so that it would not be possible to save a portion in excision of the knee-joint, if this part of the bone were at all deeply diseased. An examination also at once shows the utter impossibility of making a conical pit or an angular groove in the head of the tibia for the better fixation of the lower end of the femur after resection, without removal of the greater portion, at least, of the epiphysary cartilage. The lower epiphysis of the tibia is thicker, in proportion to its horizontal dimensions, than the upper.

The epiphyses of the fibula are among the seldomest seen. They are rather deep, a feature correlated with the general outlines of the diaphysis of this bone. That of the lower extremity is, of course, noted for its breach of the osteological commandment—to the effect that: "That epiphysis of a long bone towards which the nutrient artery is directed, shall be the last to ossify, and the first to unite with the diaphysis." The lower epiphysis of the fibula breaks the first part of this command; it ossifies first—perhaps acting under the influence of a secret suggestion from nature for the purpose of supporting the toddling infant.

Art. XIII.—*Burning Foot or Erythromelalgia Tropica.* By P. N. Gerrard, M.D. Univ. Dubl.; District Surgeon, Sĕlangor.

Definition.—A disease of the plantar nervous or arterial supply which occurs in Eastern natives accustomed to work barefooted on roads and plantations. This disease, which is fairly common in the Malay Peninsula, chiefly in the persons of Tamil labourers upon coffee plantations, commences usually with a "pins-and-needles" sensation affecting the soles of the feet. It then progresses to an acute burning sensation, which is in the majority of cases so severe as to prevent the patient walking, and frequently necessitates the administration of narcotics to produce sleep (which becomes quite impossible in severe cases). In some cases the patient is enabled to walk upon the heels with the aid of a stick, in some others no progress nor attempt can be made. In addition to six cases on which this paper is based I have seen one case in the person of a Chinese, who I regret to say died of dysentery before any presentable history of his burning foot could be obtained.

One point which has struck me in the collection of these cases is that although a previous history of malaria can usually be obtained, of the time previous to the incidence of the erythromelalgia, if such it be, no history of malaria occurring during the progress of the burning foot can be found in any of the cases which I have met. The possibility, therefore, that such cases may be neuritis of a malarial origin in which the blood supply to the nerves implicated may have become cut off by means of a deposit of malarial pigment, seems to me a possibility worthy of some consideration The disease, occurring as it does in dark-skinned races mostly, obscures to some extent the swelling and redness described by Dr. Savill in his article on "Erythromelalgia" in the *Lancet* of June 1st, 1901, and to which article I am indebted for the proper placing of these cases under the heading which I have chosen above. The duration of the disease in the cases under consideration has been variable, and no final results can be given, as my transfer from the district wherein these cases occurred took place almost immediately after my interest had been raised in them.

Duration of Case I. at the time he was seen was 3 days
" II. " " 3 months
" III. " " 15 days
" IV. " " 3 months
" V. " " 2 "
" VI. " " 10 days

from which statements a chronic course may rightly be argued for the disease. That the affection is not any form of acute local disease occurring in a given place after a fixed incubation period may, I think, be fairly argued from Cases I., III., and VI., for we find that these cases had been in the country for three and a half years, eight months, and one and a half years, respectively, and had only suffered from the disease—Case I. for three days, Case III. for fifteen days, and Case VI. for ten days. From these premises may also fairly be deduced the fact that length of residence in *this* particular country has no influence in the production of the disease.

In two out of the six, sugar was present in the urine. The appearance of the feet and toes is not by any means extraordinary, but on close observation I believe that in the majority a certain variable amount of swelling is present, and in one (the youngest, Case II.) I believe slight sclerodactylia also. Tremor was not observed in any of the cases.

Affecting—as the tropical form of the disease does—the soles of the feet and the toes, the actual amount of congestion or true thickening present, and its behaviour under varying conditions with regard to the force of gravity (as has been noted by Dr. Savill), is difficult to state, and I am inclined to the view that, in the case of this tropical affection, the disease does not exist in the congestive form so much as in the cellulitic. That the disease, however, in its earlier phases (before the Government hospital is sought, which is usually late in every case) may and probably does commence as the congestive variety is, I consider, extremely probable, and that, by means of the bruising and high ground-temperature to which the soles are exposed on open plantations, a plantar cellulitis is rapidly induced in the tropical form, in which form therefore it comes under one's observation.

Regarding Dr. Savill's hypotheses as to causation—eliminating the suggestion of its malarial origin, which I believe worthy of further investigation—*arteriole fatigue* must be considered as an extremely probable factor in the tropical cases. The duties of coffee-estate coolies lead them barefooted out into the morning mists, when the upturned soil is clammy, damp, and comparatively cold, at 6 a.m.; they work on during the rising morning until 9.30, at which time they "break off" for an hour. Their next "spell," from 10.30 to 1 p.m., is on the burning soil, which is, however, during the earlier hours interrupted at intervals by cold patches of earth shaded by the still slanting rays striking the coffee-bushes. The next shift is usually from 2 to 5 p.m., during which there is no respite for the sole from the burning earth.

Paralysis of the sympathetic need not, I consider, be gone into in these tropical cases.

Excitation of the vaso-dilator nerve fibres need not be called upon to share the responsibility in these cases, as the converse—namely, fatigue paralysis of the vaso-constrictors—is from the nature of the patient's employment much more probable and understandable.

General toxic vasomotor derangement would surely be more widespread in its effects! Added to which the histories of the six cases show no abnormalities of digestion or neurasthenic phenomena. Acro-paræsthesia is not uncommon in these cases, as already stated. I trust that I have made clear in the above statement the fact of the acuteness of the pain experienced. In the cases in which the knee-joints were synchronously attacked I have been obliged, for want of a better reason, to put this symptom down to concurrent rheumatism. I have not met any of the "flushings" and "vertiginous" attacks in the cases reported. I should mention also the fact that an extreme dryness of the plantar skin is undoubtedly present, pointing further to the cellulitic hypothesis.

The treatment adopted in my cases has been very varied; narcotics and sedatives of all kinds naturally only relieved the disease for the period of their action. Some relief was obtained in two cases by immersion in hot water containing a quantity of salt. Various liniments and ointments were unsuccessfully tried, and general tonics, with or without strychnin, also failed to give permanent relief. Calcium chloride was not exhibited, but I hope to report upon its action at some future time.

ERRATA.

Parasitic Anæmia.—In the Journal for August 1, 1904 (Vol. CXVIII.), page 155, line 4, for "M. A. Manouoriez," *read* "M. A. Manouvriez"; line 6, for "book-worm," *read* "hook-worm."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Manual of Practical Medical Electricity, the Röntgen Rays, Finsen Light, Radium and its Radiations, and High-frequency Currents. By Dawson Turner, B.A., M.D., F.R.C.P. Ed.; M.R.C.P. Lond.; Lecturer on Experimental Physics, Surgeons' Hall, Edinburgh; Medical Officer in Charge of the Electrical Department, Royal Infirmary, Edinburgh. Fourth Edition, Revised and Enlarged. London: Baillière, Tindall & Cox. 1904. Demy 8vo. Pp. xxiii + 435.

In the number of this Journal for April, 1903 (Vol. CXVII., page 291), we expressed a very favourable opinion of the third edition of Dr. Dawson Turner's manual.

The whole book has been carefully revised since that time, but the most extensive changes will be found in Part VI., on the Röntgen X-rays It has been re-arranged and expanded into five chapters, of which the first two are devoted to the X-rays. In Chapter III., on the Finsen Light, Becquerel's discovery of the radio-activity of uranium in 1896 is referred to, and the marvels of the radium radiations are unfolded. At the close of this chapter, also, mention is made, in terms of prudent reserve, of Blondlot's N-rays. According to Blondlot and Charpentier, the human tissues appear to possesss the property of emitting rays which may increase or diminish the luminosity of a phosphorescent screen or of an electric spark. As these rays are chiefly emitted by the muscles and nerves when physiologically active, it is suggested that they may serve to outline these tissues and to aid in the localisation of tumours of the brain.

In Chapter IV. the therapeutic applications of the Röntgen ray, the Finsen light, and radium radiations are discussed.

A new chapter (V.) tells us all that is known of high-frequency currents and their therapeutic application. In the author's opinion, these currents are still upon their trial, and he considers that time alone will show whether they will prove of superior or even of equal efficacy with our older, but less startling, electro-therapeutic methods. These are wise words.

A notable feature in this work is the lavishness with which it is illustrated. More than thirty fresh illustrations have been added in the present edition, which includes 200 figures in the text.

In conclusion, we heartily endorse the sentiments of the author in the closing sentence of his preface, which we re-print:—"The foundation of the Electro-Therapeutic Society, and the increasing interest that the medical profession is taking in medical electricity, lead one to hope that the tide of unqualified electrical practice will at last be stemmed, and that practitioners will awake to the fact that it is both derogatory to themselves and injurious alike to their profession and to their patients to call in instrument makers for radiography and nurses and masseurs for electro-therapeutic treatment."

Surely if a physician or surgeon is too busy to himself undertake radiography or electro-therapeutic treatment there are plenty of well-educated young medical men to whom these necessary aids in modern medical practice could be entrusted to the mutual advantage of both parties, and above all to the benefit of the patient.

A Manual of Pathology. By JOSEPH COATS, M.D.; late Professor of Pathology in the University of Glasgow. Fifth Edition, revised throughout by L. R. SUTHERLAND, M.B.; Professor of Pathology in the University of St. Andrews. With 729 Illustrations and two Coloured Plates. London: Longmans, Green & Co. 1903. Pp. 1287.

AN examination of this fifth edition serves to confirm the opinion expressed, when we reviewed the second edition fifteen years ago, to the effect that "Coats' Pathology" was one of the best books on the subject that has appeared. The death of Professor Coats, which was such a blow to medical science in the British Isles, and especially in Glasgow, and which occurred before this edition was called for, caused the work of revision to devolve on Dr. Sutherland, who has done his work in a thoroughly satisfactory manner. The chapter on Bacteriology that appeared in former editions has been omitted, as that subject is now so extensive as to call for special treatises; and the space thus gained has been well utilised by the introduction of recent additions to pathological knowledge and by the insertion of 230 additional illustrations.

This work is specially to be commended, because it is by no means a work on morbid anatomy only, but, on the contrary, treats of pathology from a medical and surgical standpoint.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Vol. VI. January, 1904. Edited by ANDREW J. M'CASH, M.D., and W. GILMAN THOMPSON, M.D. New York: Trow Directory Printing and Bookbinding Co.

THIS, the sixth, volume of the Reports of the Presbyterian Hospital is much superior to any of its predecessors. It is different to them in character, is more of a medical volume, and has lost those advertising features which disfigured former volumes. It contains seventeen original articles, of which any volume of reports might be proud. If we enumerate some of the contents only it is because space does not permit of our giving them all, and we name those that we think of more than usual interest. Dr. Northrup's paper on the "Rapid Growth of Long Bones," as a suggestive paper, will well repay study. "The Pathological Anatomy of the Shiga Bacillus," by Dr. John Howland, is, we believe, the first paper to give anything like a full description of that organism. "Mal-position of Adrenal Tissue" tells of the enormous strides physiology and medicine have made since Sir Victor Horsley first turned his attention to the functions of the suprarenal glands. "Paratyphoid Fever" is the subject of an article by Drs. Ingen and Frissell, in which the many difficulties which sometimes attend the diagnosis of typhoid fever are well shown. It would almost make a trained nurse diffident. "Malignant Endocarditis, with a Report on Thirty-two Cases," follows. Happily, this disease is very uncommon. Withal, it is useful to have such an accurate clinical picture for reference. "Extraction of an Intubation Tube from the Right Bronchus" is the report of a very successful operation by which an intubation tube was removed from the first branch of the right bronchus.

Insomnia: Its Causes and Cure. By JAMES SAWYER, Senior Consulting Physician to the Queen's Hospital, Birmingham. Birmingham: Cornish Brothers. 1904. Pp. 66.

THIS little monograph is a separate reprint of the chapters on insomnia in the author's "Contributions to Practical Medicine," and is based on various clinical lectures delivered by him. The style of a clinical lecture is retained, and is somewhat marred, especially in the earlier part, by attempts at "fine writing." After a sketchy account of the physiology of sleep (at some of the statements in which we should be inclined to cavil), the author proceeds to classify insomnia as *symptomatic* (due to pain, fever, dyspnœa, and the like) and *intrinsic* (for which no obvious physical cause can be discovered), with which latter and its treatment the paper is mainly concerned. Cases under this head are subdivided into *psychic*, *toxic*, and *senile*. The first class, which is commoner among men, includes those due to shock and mental overwork, and an admirable general description is given of the latter form, and also of the symptoms observed by Sir James Sawyer to follow persistent intrinsic insomnia. These observations are interesting, and show the existence in such cases of a general state of "irritable weakness" of the nervous system. In seeking to explain the causation of toxic insomnia, too much importance is, in our opinion, assigned to vascular influence, and not enough to the direct action of the poisons upon the nerve-cell. The second chapter is devoted to treatment, and although not much novelty in detail will be found therein, it is an excellent and helpful broadly-outlined sketch of the methods to be followed, and is especially deserving of commendation for the stress laid upon measures other than hypnotic drugging. The monograph, as a whole, will well repay perusal, and is readably written.

International Clinics. Vol. I. Fourteenth Series. 1904. London: J. B. Lippincott. Pp. 304.

THIS volume contains a number of clinical lectures similar in scope to those which appeared in former volumes of this series, and which do not appear to us to call for special mention. The latter part of the book contains a review of the Progress of Medical Science during 1903.

Manual of Surgery. By ALEXIS THOMSON, M.D., F.R.C.S. Ed., Assistant Surgeon, Edinburgh Royal Infirmary, Surgeon to the Deaconess Hospital, Edinburgh; and ALEXANDER MILES, M.D., F.R.C.S. Ed., Assistant Surgeon, Edinburgh Royal Infirmary, Surgeon to Leith Hospital. Volume Second, Regional Surgery. Illustrated with 156 Wood Engravings. Edinburgh and London: Young J. Pentland. 1904. Pp. 723.

THE volume before us completes the "Manual of Surgery," the first volume of which we recently reviewed, and well maintains the excellence of the teaching our perusal of the first instalment led us to expect. The subjects to which it is devoted are treated in a manner deserving of every praise. Very little is said about the details of operative procedures—a method to be commended in a general surgery. The work will do much to maintain the renown of the Edinburgh school for the practical nature of its teaching as well as enhance the reputation of the authors. Adverse criticism of the work is out of the question, while undue complimentary criticism is uncalled for. We congratulate the authors on their success, and have much pleasure in recommending the work to every student and practitioner who desires to possess a book which is alike readable and eminently sound and practical in its teaching.

The Calcutta Practitioner. A Medical Journal. Vol. I. No. 2. February, 1904. Calcutta: Printed at the Cherry Press, 10 Cornwallis-street, and published by the City Book Society, 64 College-street.

THIS modest octavo of 40 well-printed pages has not yet left its swaddling clothes, for there are but two leaves of advertisements found between its covers. We seldom have an opportunity of hailing such specimens of infantile purity; and, accordingly, we welcome its arrival in the world of journalism—rather over-crowded as it already is—with the greatest cordiality. Its stock of matter, although so limited, is well selected; and is all dressed out in a form which does credit to both contributor and editor. The first article, which bears the title of "The Bhowanipore Food-poisoning Case," by Rai Bahadur Chunilal Bose, M.B., F.C.S. (concluded from the former issue), bears strong testimony to the productive efficacy with which the gospel of bacteriological pathology has been preached unto all nations—with its distinctive accompaniments of ptomaïns and toxins. The next contribution is one which we read with an added personal interest. Its heading is—"Effect of Mental Impressions of the Mother on the Embryo, by Haridhan Dutta, L.M.S." The subject is extremely well thought out, and the writer's general remarks on heredity and atavism are a decided improvement on a large proportion of the matter which we have, unhappily, been obliged from time to time to peruse in connection with these much be-written subjects. His remarks on infantile deformities have brought forcibly before our mind's eye the common kinship of the human race. The uneducated peasant woman of the West of Ireland believes, or did believe a quarter of a century ago, that if she saw a hare during her pregnancy she must at once stoop and tear a vertical slit in her petticoat or chemise, for this is the only available method of transferring the impression of *labium leporinum*, which would otherwise inevitably appear in her offspring! Cases of "quadruplets" (which died within forty-eight hours after birth) and of "spontaneous cure of aneurysm" (popliteal), which followed fracture of the lower end of the femur in a child of seven, conclude the original "contribs." Then there is a good show in the way of "clinical notes," "current literature," "reviews of books," and "current events." Altogether we consider that the *Calcutta Practitioner* has made a good start, and we wish it a hearty "God-speed"!

L'Écho Médicale. No. 321. Septième Année. No. 10. 8 Mars, 1903.

THIS specimen number of an interesting and well-edited periodical should have been noticed before, had it not become accidentally mislaid among our other exchanges. Among other interesting items, it contains a specially attractive and instructive one bearing the title, "Quelques mots sur le Congrès du Caire. Sa raison d'être. Son utilité. Par M. Davrinche, interne des Hôpitaux." In commenting on this text, the writer points out that while Europe is the Continent of *Scientific Congresses* in special, and claims the lion's share of scientific discovery and scientific research in general, it can by no means lay claim to be the quarter of the world where disease and physical ills innumerable most loudly and frequently call for the alleviating attention and curative skill of the physician. No country in the world had more need of the cosmopolitan medical consultation which only an International Medical Congress can furnish than had Egypt. "*Ces médecins qui sont des timides, qui ont peur pour ainsi dire de communiques aux autres ce qu'ils ont ou se rencontrent surtout en Egypte.*" And he proceeds to point out the patent and universal source of disease in the actual source of its existence. The land of Egypt is, in the language of the "Father of History," *a gift of the Nile;* and the gruesome feature of its physical history is that the same mighty "Father of Waters" presents the perennial fountain of its terrible plagues. The perusal of this article almost reconciles one to the hurry and scurry of Western civilisation—bad as it is; for it makes us understand the value of the position which we have attained in relation to the gravitating and destructive agencies of the surrounding world, by the slow and painful mastery of physical facts. One is not surprised that Egypt is fertile in cholera, and malaria, and leprosy, and pellagra, and filariasis, and hydatid disease, and all et ceteras, even ophthalmia, when we realise that "*A l'endroit même où on lave le linge, où on conduit boire les bestiaux, les femmes puisent avec leurs amphores, les vendeurs d'eau emplissent leurs outres et vont faire la distribution dans le village on dans la ville.*"

The Journal of the Irish Medical Association. "To Protect and Promote the Interests of the Medical Profession." Vol. IV. No. 1. January, 1904.

WE have here 44 quarto pages of closely-printed matter—all of the greatest practical interest and importance to the Irish medical practitioner. In "A Review of the Situation," which opens the first page, the writer points with an honest pride to the progress made by the efforts of the Association. "Though still far from the accomplishment of all that would make the Poor Law Medical Service a desirable one, yet to those who cavil and are inclined to sneer at our Association we would point out that the few privileges that have been obtained are due entirely to its work, more especially within the last few years. It is grudgingly given, no doubt, in many cases, and hedged round with difficulties, but still we have obtained the right to an annual holiday. The privilege of getting tickets cancelled by the issuer is also the outcome of our exertions. And we have established four guineas a week as the recognised tariff for a *locum tenens*." In commenting on these results, the writer goes on to say that:—"These, indeed, are small gains, and leave the main body of our complaints untouched . . . "; but we think that he could well afford to take a more encouraging view. The start is always the most difficult part of such an undertaking; the winning of the first outpost is the most risky and the most uncertain, and every new standpoint which is secured can be utilised as a vantage-ground for a new attack on the position of the enemy or the opponent. We are at present living in a levelling and a revolutionary age; learning and scientific attainments command no respect from an "intelligent" public which has been subjected to a process of "intermediate education," and which reads its newspapers every morning; and, accordingly, "knows what's going on" everywhere, and forms opinions of its own on all matters thinkable and printable. We suspect that the only sensory areas discoverable in this myrio-cephalic product are its stomach and its pocket—both included in that of self-interest. When it is led to believe the glaringly obvious truth that it must gain more than it will lose by treating its doctors liberally, it will adopt the latter line of action, not before. We cordially congratulate the Irish Medical Association on the results already attained by their method of persuasion.

RECENT WORKS ON GYNÆCOLOGY.

A Text-book of Gynæcology. Edited by Charles L. Reed, M.D.; Professor of Clinical Gynæcology in the University of Cincinnati, &c., &c. New York and London: Appleton & Co. 1904. Second Edition. Pp. xxv and 900. With 356 Illustrations.

Practical Gynæcology, a Comprehensive Text-book for Students and Physicians. By E. E. Montgomery, M.D.; Professor of Gynæcology, Jefferson Medical College, &c., &c. London: Rebman, Ltd. 1904. Second Edition, revised. Pp. xxxiii and 900. With 539 Illustrations.

It is so comparatively short a time since we reviewed the first editions of these works that it is scarcely necessary to do more on the present occasion than note the appearance of the new editions. Both books have been thoroughly revised and brought up to date, and a considerable number of new illustrations have been added. Professor Reed's book is well known, and appears to us to be an admirably full and complete work on gynæcology. Although it is written by a number of authors, the editor has welded it into a homogeneous whole, and has gone far to overcome the difficulties which surround the production of a composite work. In addition to numerous American writers, the names of Ballantyne, Cameron, Robson, and Sinclair appear in the list of contributors. We can cordially recommend the book to both general practitioners and specialists.

Montgomery's work was not reviewed by us in so favourable terms on its first appearance, and, though it shows signs of careful revision, we still hold a very similar opinion regarding it. The illustrations are extremely good, but the work itself is too discursive. It contains a large amount of information, but its arrangement militates against the ready assimilation of the latter.

A Manual of Surgical Diagnosis. By JAMES BERRY, B.S., F.R.C.S.; Surgeon to, and Lecturer on Surgery at, the Royal Free Hospital; formerly Surgical Registrar and Demonstrator of Anatomy, of Operative Surgery, and of Practical Surgery at St. Bartholomew's Hospital. London: J. & A. Churchill. 1904. Pp. 363.

THIS little book is intended mainly for dressers and junior practitioners. The author quite recognises the utter futility of attempting to deal fully with every detail of surgical diagnosis, and has wisely contented himself with giving the principles involved and the methods of examination that ought to be adopted. Most emphasis is laid on those points he considers, from his own practical experience, of most importance and of most value. The book is divided into three parts, of which the first part shows fully and concisely how the student should approach a case with a view to diagnosis, the method of taking the history, the physical examination to be made, and the methods of doing so.

As far as it goes, the book is sound in its teaching, and when used in connection with practical demonstrations of its principles in the wards of the hospital or out-patient department it will, we have no doubt, be found serviceable.

Le Ventre. Étude Anatomique et Clinique de la Cavité Abdominale au Point de Vue du Massage. Le Rein. Par le Dr. M. Bourcart. Ouvrage, illustré de 134 figures. Paris: F. Alcan, Éditeur. 1904.

The present volume of this work is one of three, the first of which deals with the normal and abnormal positions of the kidneys and the influence of massage in correcting malposition and functional troubles of those organs. A good deal of the letterpress and many of the illustrations are taken up with the typography of the viscus and the different methods of examining it through the abdominal walls. Massage is highly recommended as a therapeutic remedy, but only when performed by the physician; as done by the trained nurse, ignorant of anatomy, the author considers it more injurious than otherwise. The work is a very valuable addition to the literature of kidney malposition and massage.

The Pathology of the Eye. By J. Herbert Parsons, B.S., D.Sc. (Lond.); F.R.C.S. (Eng.); Curator and Pathologist, Royal London Ophthalmic Hospital. London: Hodder & Stoughton. 1904. 8vo. Pp. 388.

We have the first volume of this work to hand, and, having read it, we have no doubt that when the work is completed ophthalmology will be much enriched. Mr. Parsons is handling his subject in a most attractive style, placing before us his views and those of the best workers in this department in a clear and impartial way.

It is pleasing to see British work so fully acknowledged—a feature that does not characterise Continental works. The section on Trachoma—a difficult topic—strikes us as being very thorough and up to date.

The author is to be congratulated on the result of this first instalment of his efforts to place before the ophthalmological world a thoroughly complete work on eye pathology. To ophthalmologists in general the work must be interesting reading, and to those concerned with eye pathology in particular it will be invaluable.

Messrs. Hodder & Stoughton, the publishers, have left nothing to be desired.

Catalogue Général et Bibliographie Méthodique. Médecine, Histoire Naturelle, Agriculture, Art Vétérinaire, Physique, Chimie, Industrie. 1904.

A GENERAL catalogue of scientific books has just been issued with the above title by the eminent Paris firm of publishers, J. B. Baillière et Fils. It includes the names of the authors of about 5,000 works, arranged in alphabetical order. The latter include standard manuals and books of reference on *medicine, natural history, agriculture, veterinary science, physics, chemistry, technology, industry,* &c.; and gives the date of publication of each, with the size, number of pages, of figures, and of plates. "A table methodique" of 17 pages gives, besides, the names of the principal authors who have written on more than 1,500 subjects connected with the various sciences. This bibliography will unquestionably be found of the greatest value to all scientific workers. It will be forwarded, gratis and post free, to readers on application to the publishers, MM. J. B. Baillière et Fils, 19 Rue Hautefeuille, Paris.

The Medical Attendance of Londoners. An Economical Study of Medical Relief, freed from existing abuses, and adequate to protect all classes and interests. By SIR HENRY BURDETT, K.C.B. A speech made at the annual meeting of the Portland Town Free Dispensary, held at the De Walden Institute, Charlbert-street, St. John's Wood. London: The Scientific Press, Limited. 1903. 8vo. Pp. 20.

SIR HENRY BURDETT explained his appearance and speech at a small dispensary by telling his hearers that:—"After all, the dispensaries of London, which are amongst the oldest institutions in the metropolis, have done for more than a century most useful work, and they have this great merit, that they have never departed from the principles upon which they were originally founded—that they should be maintained and managed for the poor." And the key-note of his able and business-like speech is given in the concluding paragraph:—"I cannot do less than congratulate the managers of this free dispensary that they have established in this district a system whereby every patient who comes here is seen if urgently ill, and then handed on to a small committee to ascertain whether the patient is able to pay or not." The business-like fair play which is expressed in this sentence is much more to be admired than its English grammar. How greatly would the establishment of such a principle throughout Ireland—if properly carried out—improve the position of the medical slaves of the poor-law guardians!

Atlas and Epitome of Operative Gynæcology. By Dr. Oscar Schaeffer, Privatdocent of Obstetrics and Gynæcology in the University of Heidelberg. Authorised Translation from the German, with Editorial Notes and Additions. Edited by Clarence Webster, M.D., F.R.C.P.E. London and New York: Saunders & Co. 1904. Pp. 138. With 42 Coloured Lithographic Plates and many Text-Illustrations, some in colours.

A good Atlas of operative gynæcology would fulfil a long-experienced want, provided that it is full, and that the illustrations are clearly drawn. We do not know, however, that the Atlas before us is altogether satisfactory. Many of the coloured plates it contains are excellent, but others do not convey as much to the eye as would a half-tone drawing, and illustrations of many common operations are wanting. On the whole, we think that, from the point of view of an atlas, the book is hardly equal to many others of this well-known series.

PART III.

SPECIAL REPORTS.

REPORT ON PUBLIC HEALTH.[a]

By Sir Charles A. Cameron, C.B., M.D.; D.P.H., Camb.; M. and Hon. F.R.C.P.I.; F.R.C.S.I.; F.I.C.; Ex-President, Hon. Dipl. Public Health, and Professor of Hygiene and Chemistry, R.C.S.I.; Vice-President and Ex-President of the Royal Institute of Public Health, and of the Society of Public Analysts; Medical Officer of Health for Dublin; Hon. Member of the Hygienic Societies of France, Belgium, Paris, and Bordeaux, the Academy of Medicine, Sweden, and of the State Medical Society of California, &c.; Examiner in Sanitary Science, Royal University of Ireland; Member of the Army Sanitary Committee, Harben Gold Medallist, 1903, &c.

I. HEALTH OF LIVERPOOL.
II. DEATH-RATE IN MANILLA.
III. VITAL STATISTICS OF LONDON AND OTHER LARGE TOWNS.
IV. REPORT OF THE COMMISSION APPOINTED TO INQUIRE INTO THE RELATION BETWEEN HUMAN AND BOVINE TUBERCULOSIS.
V. COMPENSATION FOR THE DESTRUCTION OF TUBERCULOUS ANIMALS.
VI. IMPROVED DWELLINGS FOR THE PEOPLE.
VII. THE STATUS OF MEDICAL OFFICERS OF HEALTH IN IRELAND.
VIII. A STERILISER FOR INFECTED DISCHARGES.

I. HEALTH OF LIVERPOOL.

I have received the Report on the Health of the City of Liverpool for 1903, from that model Medical Officer of

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[a] The author of this Report will be glad to receive any books, pamphlets or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

Health, Dr. E. W. Hope. It is a very substantial volume of 240 pages, besides dozens of diagrams. Printed on first quality paper, and having excellent type, it is not often that so perfect a Public Health Report comes into my possession. It will interest the readers of this Journal to present to them a brief analysis of the vital statistics of this important city, in which so many Irish people dwell.

The population of Liverpool was estimated in 1903 to be 716,810. The death-rate was 19.8 per 1,000 persons living, and the lowest ever recorded in that city. Corrected for age and sex distribution, the rate was 22.5 per 1,000. The rate varied considerably in different districts. In the fashionable one, termed Sefton Park, it was 9, whilst in the Scotland district (population 52,834) it was 33.8 per 1,000. and in the Exchange Division (population 41,332) it rose to 35.2 per 1,000. These are corrected rates.

The infantile mortality is high in some districts, low in others, and on the average above the mean rate for the 76 largest towns in England and Wales. For all Liverpool 159 deaths of infants under one year per 1,000 births occurred in 1903; in the 76 large towns, 144; in London, 131; in the largest towns, excluding London, 149; in Dublin, 153. The rate varied from 88 in Sefton Park district to 215 in Scotland district. The infantile death-rate in Liverpool has fallen considerably of late years. This reduction must be in part fairly attributed to the efforts of the sanitary authorities. They have distributed widely instructions as to the feeding of infants, and they have a staff of inspectors who give verbal instructions in reference to this important department of domestic hygiene. They have established depôts for the sale of sterilised milk for the use of children, a practice which originated some years ago in St. Helen's.

Small-pox raged in Liverpool in 1902 and 1903. From October, 1902, to 31st December, 1903, there were 2,032 cases. The maximal number in hospital was 335. The protective effects of vaccination were exemplified by the epidemic. No one connected with the small-pox hospitals contracted the disease. The staffs had been re-vaccinated. Of the 145 patients in Faza Kerly Hospital who presented no vaccination marks, or who had been unsuccessfully vaccinated, or whose vaccination was doubtful, 34 or 23.4 per cent. died. As regards the others, 28 had severe attacks and 83 mild ones. In 571 cases there were one or more vaccination marks, and the mortality was only 2 per cent. Results favourable to vaccination were observed in the other hospitals.

Typhus fever has practically died out in Dublin, but it still exists in Liverpool. There were 272 cases in 1903, and of these 57 had a fatal termination. There were in the previous eight years deaths from this disease, varying from 11 in 1900 to 36 in 1896.

The zymotic death-rate was 2.8 per 1,000 persons living. The average rate for the previous 10 years was 3.7 per 1,000.

There is voluntary notification of phthisis, and the notifications are paid for. It seems strange that in Dublin it is not legal to pay for the notification of any disease that is not on the Schedule to the Notification Act. In 1903, 1,874 cases were notified. In 746 of them there was disinfection. One school was closed on account of the prevalence of infectious disease. In England the public health authorities are empowered to order the closure of schools during epidemics. In Ireland the sanitary authorities have no power of the kind.

One of the most interesting departments is that in which milk is sterilised and distributed. The expense of the department in 1903 was £4,259 3s. 5d. The sale of the milk realised £2,230 11s. 1d. The loss was, therefore, £2,028 12s. 4d.

The apparatus employed consists of two sterilisers—one (Jackson's) which charges 440 bottles at one operation, and Ayvern's, which charges 405 bottles at one operation. There are four depôts for its sale, but it is also supplied to a large number of private dairies. Several thousands of children have been supplied with the sterilised milk. Dr. Mussen investigated the effects of the use of the sterilised milk on 360 children and found it to be satisfactory. Dealing with larger figures, Dr. Hope tells us that the death-rate of the infants using sterilised milk was only 78 per

1,000, whilst the rate amongst the infants in the whole city was 159 per 1,000 births. If, however, the breast-fed children were excluded, and the death-rate of infants fed on sterilised milk compared with those supplied with mothers' milk, it would exhibit a more striking contrast.

The Corporation of Liverpool regularly employ the services of bacteriologists. As many as 582 samples of milk were examined in 1903, and in 21 of them tubercle bacilli were detected.

It is interesting to learn that town milks were freer from the bacilli than the country milk. Of 1,350 samples of the former, taken from 1896 to 1903, 25 contained tubercle bacilli, whilst of 1,686 specimens of country milk 106 contained the bacilli. There is little doubt but that filth is more abundant in the dairy-yards of the country than in those of the towns, because no doubt the latter are subject to more stringent supervision.

The preparation and supply of sterilised milk by municipal authorities is making progress. In Glasgow it has just been initiated. The Asylums Committee have requested the London County Council to expend £2,780 in providing cowsheds for 40 cows at the Health Asylum, Bexley. The milk produced would be sterilised.

Dr. Hope points out the danger arising from sewage having access to oyster, cockle, and mussel, &c., beds; 102 specimens of them were subjected to bacteriological examination. *Bacilli coli communes* were present 39 times and the *Bacillus enteritidis* 24 times. The former were more frequently found in oysters and mussels, and the latter in cockles, periwinkles, and mussels.

II. DEATH-RATE IN MANILLA.

The United States having acquired the Philippine Islands, have set up a sanitary organisation in them and publish monthly vital statistics. The population of the City of Manilla was 219,141 in 1903. The population comprised 4,389 Americans, 189,782 Philippinos, 2,528 Spaniards, 1,117 other Europeans, 21,230 Chinese, and 895 of other nationalities. It is extraordinary how great is the difference in the mortality of these various nationalities.

In the month of January, 1904, only one American died. The death-rates amongst the other nationalities were as follows:—Philippinos, 46.06; Spaniards, 9.33; other Europeans, 21.09; Chinese, 24.96; all others, 39.40; average of all, 42.64. In 1903 the death-rate of Manilla for each month was as follows:—January, 28.89; February, 27.33; March, 25.94; April, 27.31; May, 37.05; June, 29.46; July, 33.21; August, 46.17; September, 67.97; October, 65.19; November, 53.91; December, 47.89.

III. VITAL STATISTICS OF LONDON AND OTHER LARGE TOWNS.

The Registrar-General of England and Wales has just published the vital statistics of London, of 75 other large towns, and of 105 towns under 50,000 population for the year 1903.

England and Wales are peculiar amongst the great States of Europe as regards the extent of their urban population. A very small part of the population of the huge Russian Empire is located in towns of large size. In 1903 there were in England and Wales 76 towns of which each contained more than 50,000 inhabitants. They contained 15,075,011 persons, or half the population of the whole country. The death-rate in these towns, calculated without reference to age or sex distribution, was 16.3 per 1,000 persons living, or 1.1 per 1,000 below the rate for 1902. This rate is not so very far from that of the rural districts, but the time is not very remote when the urban mortality nearly doubled that of the country. That the great improvement in the health of town communities is due to sanitary improvements is beyond doubt. The lowest crude death-rate in any of the 76 towns was 7.9—Hornsey enjoyed this pre-eminence. Wigan stands highest in mortality figures—its death-rate being 22.2.

The Registrar-General also gives the vital statistics of 103 towns containing each from 25,000 to 5,000, or a total population estimated to be 3,706,326. The crude death-rate in them averaged 14.6 per 1,000. The lowest (9) was in Beckenham, the highest (21.2) in Longton.

Corrected for age and sex distribution the death-rate in the 76 largest towns was 17.2, or only 3.04 in excess of the rate in England and Wales less the 76 great towns.

The zymotic death-rate in the 76 towns was, on the average, 1.89 per 1,000. The lowest (0.69) was in Hastings; the highest (4.18) in Wigan. In Dublin the rate was lower than usual --namely, 1.48.

The birth-rate in the 76 great towns was 29.7 per 1,000 of the population. It has been declining for some years past.

IV. THE REPORT OF THE COMMISSION APPOINTED TO INQUIRE INTO THE RELATION BETWEEN HUMAN AND BOVINE TUBERCULOSIS.

The Commission have issued an *ad interim* report which is of great interest. Their experiments were carried out on grounds at Stanstead, Essex, placed at their disposal by Sir James Blyth, Bart.

The Commissioners are—Sir Michael Foster (chairman), Drs. G. Sims Woodhead and Sidney Martin, J. McFadyen (veterinary), and Professor Rupert Boyce.

The infective material taken from more than twenty persons affected with tuberculosis was employed. Some of it was sputum from phthisical patients, some was from tuberculous lungs, mesenteric glands, tuberculous joints, &c. The introduction of seven specimens of this infective material into oxen speedily produced acute tuberculosis, spreading to the lungs, spleen, liver, lymphatic glands, &c. The remaining specimens did not produce so great an effect upon an ox, but the animal was affected in two instances at the parts in which the virus was introduced. Material from this comparatively slightly affected part when introduced into other oxen or guinea pigs, ultimately gave rise to bovine tuberculosis of an intense character. The Commissioners say:—

> "We have very carefully compared the disease thus set up in the bovine animal by material of human origin with that set up in the bovine animal by material of bovine origin, and so far we have found the one, both in its broad general features and in its finer histological details, to be identical with the other. We have so far failed to discover any character by which we could distinguish the one from the other; and our records contain accounts of the *post-mortem* examinations of bovine animals

infected with tuberculosis material of human origin. which might be used as typical descriptions of ordinary bovine tuberculosis.

"The results which we have thus obtained are so striking, that we have felt it our duty to make them known without further delay, in the present *Interim* Report.

"We defer to a further Report all narration of the details of our experiments (and we may say that up to the present time we have made use of more than two hundred bovine animals), as well as all discussions, including those dealing with the influence of dose and of individual, as well as racial susceptibility, with questions of the specific virulence of the different strains of bacilli, with the relative activity of cultures of bacilli and of emulsions of tuberculous organs and tissues, and with other points. In that Report we shall deal fully with all these matters, as well as with the question why our results differ from those of some other observers.

"Meanwhile we have thought it our duty to make this short *Interim* Report, for the reason that the result at which we have arrived, namely, that tubercle of human origin can give rise in the bovine animal to tuberculosis identical with ordinary bovine tuberculosis, seems to us to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caused by the one is a wholly different thing from the disease caused by the other."

According to a writer in the *Therapist* for July 15th, 1904, Professor Koch is still sceptical:—

"In traversing the Report of the Commission, Prof. Koch said, in an interview with a press representative, that 'he would wait for proofs as to whether the Commission were right'; but, he added, 'it has not been proved that men can be infected by matter from animal origin.' With increasing emphasis the Professor continued, 'I see absolutely no reason to change my view, arrived at after years of careful experiment, that there is no evidence to prove that men can be infected by animal tuberculosis in any than the very slightest degree. The Commission has only treated half the question, and that the less important half.

"'Show me,' he continued, 'one single man who has been so

infected. Prove to me that he has been so infected before you ask me to change my views. Of all the millions of men, women, and children who eat bovine flesh and drink milk, how is it that no case is known where tuberculosis has been set up by partaking of infected beef and milk ? Prove to me that babies are infected. For combating tuberculosis all this cry made about milk is of minor importance, and misses the mark. Far too much stress is laid on it,' and far too little on the chief causes of the disease—viz., the spittle of persons diseased, and insanitary and unhealthy dwellings.' "

V. COMPENSATION FOR THE DESTRUCTION OF TUBERCULOUS ANIMALS.

A Parliamentary Committee is now sitting to hear evidence as regards compensation to the owners of tuberculous oxen slaughtered on account of this disease and condemned as food for man. It would be desirable to treat this disease in oxen in the same way as pleuro-pneumonia is treated by the Contagious Diseases Animals Act. Compensation is given in cases of that disease which is, so far as man is concerned, not so serious as tuberculosis. A considerable amount of evidence in favour of compensation has been given before the Committee.

VI. IMPROVED DWELLINGS FOR THE PEOPLE.

The recently-issued Report of the Metropolitan (London) Association for Improving the Dwellings of the Working Classes is a very satisfactory one, and a great incentive to form similar associations in other cities and in London itself. The gross rentals for the year were £27,340 8s., an excess of £404 11s. 2d. over the previous year's A dividend (including an *ad interim* one) of 4½ per cent. was declared. The rate of mortality amongst the tenants was 13.68 per 1,000 persons living. Very properly the rate was corrected by including the deaths of tenants that had occurred in hospitals and other institutions. The utterly impossible low death-rates sometimes published in connection with some model dwellings is due to the fact that only the deaths that occur in the dwellings are dealt with. Amongst the working classes a large proportion of the deaths take place in public institutions. In Dublin 37 per cent. of the whole population die in them.

VII. THE STATUS OF MEDICAL OFFICERS OF HEALTH IN IRELAND.

Having been requested to preside at the Conference of Medical Officers of Health, held in Glasgow last July in connection with the Congress of the Sanitary Institute, I prepared an Address to it, of which the following is an abstract:—

"The Public Health (Ireland) Act of 1874 created two classes of medical health officers--namely, medical officers of health and medical superintendent officers. The Local Government Board constituted a third class—consulting sanitary officers. The Poor Law (dispensary) medical officers became *ex officio* medical officers of health. The consulting sanitary officers might or might not be Poor Law medical officers. They were to be elected by the sanitary authorities, subject to the approval of the Local Government Board. For some time no medical superintendent officer of health was appointed.

"In 1866 the Corporation of Dublin appointed a medical officer of health under the provisions of the Sanitary Act, 1860. No other medical officer of health existed that year in Ireland or for several years following. The appointments of such officers was optional until 1874. In that and following years a large number of consulting sanitary officers were appointed by the sanitary authorities of the larger towns, and by the Boards of Guardians of the Poor Law Unions—the sanitary authorities for the rural districts.

"In 1878 the Act of 1874 was wholly repealed, and a new one, embodying, with additions, about twenty sanitary statutes, was enacted. It also provided that the Poor Law medical officers should be *ex-officio* medical officers of health.

"In 1874 the Local Government Board issued a sealed order to the Corporation of Dublin directing them to appoint a 'medical officer of health' and a 'consulting sanitary officer.' I was appointed to the former office, and Dr. Mapother, who had borne that title since 1866, became consulting sanitary officer.

"On the passing of the Public Health Act of 1878, the Corporation were directed to appoint a 'medical superintendent officer of health' and an 'executive officer of health.' Dr. Mapother was elected to the former office, whilst retaining the position of consulting sanitary officer, and the secretary of the public health committee had his designation changed to executive sanitary officer. Dr. Mapother resigned his position as superintendent medical officer of health, in 1879, and I succeeded him.

"In 1882, on the death of the executive sanitary officer, his duties were added to mine, and I was given the whole charge of the sanitary department. Finally Dr. Mapother received a pension, and the position of consulting sanitary officer for Dublin was terminated. Although I am now medical and executive officer of health and public analyst for Dublin, I think it extremely improbable that such a combination of offices will continue after my time. The work of sanitary authorities is yearly increasing in extent and variety, and division of official labour is becoming more and more desirable in the larger sanitary districts.

"The consulting sanitary officers appointed by the Board of Guardians were, for by far the greater number, the medical officers of the workhouse infirmaries. In some cases the *ex-officio* health officers and non-union officers were also consulting sanitary officers. Their maximal salary was £50 a year; in only a very few instances some were paid by fees, but the majority received salaries of from £5 to £20 per annum. The Local Government Board of Ireland have recently decided that vacancies in these offices are not to be filled up.

"The duties of medical superintendent officers of health as defined by the Local Government Board differ only in one important respect from those of the consulting sanitary officer, namely, that they include the supervision of the work of the *ex-officio* officers. Perhaps in process of time the remaining consultants will become medical superintendent officers of health. The following is an up-to-date list of county boroughs and urban and rural districts in which medical superintendent officers of health are appointed:—

Dublin County Borough[a]	£1,000
Belfast County Borough	500
Cork County Borough	200
Limerick County Borough	100
Londonderry County Borough	350
Waterford County Borough	60

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[a] Medical Superintendent Officer of Health, Executive Sanitary Officer and Public Analyst. Allowed £120 a year for expenses, the use of a laboratory, and provided with some assistants.

Ballinasloe Urban District	£15
Bray Urban District (vacant since September, 1903)	30
Drogheda Urban District	40
Kingstown Urban District	100
Lurgan Urban District	25
New Ross Urban District	15
Rathmines and Rathgar Urban District	50
Tralee Urban District	25
Castlereagh (Belfast No. 2) Rural District	20
Belfast Rural District	12
Castlebar Rural District (vacant since March, 1903) ..	15
Glennamaddy Rural District	10
Dublin, North, Rural District	20

"By the Irish Local Government Act of 1898 the Boards of Guardians ceased to be sanitary authorities. The districts under their control were formed into rural districts, and placed under the government of 'Councils,' who have the power of appointing medical superintendent officers of health.

"On the passing of the Public Health Act in 1874 the Dublin Corporation were requested by the Local Government Board to fix the salaries of the *ex-officio* medical officers of health in the city dispensary districts. The sum fixed for each was £25 a year. As there were fifteen dispensary physicians the total sum given to them was £375, and subsequently on the appointment of another additional officer, £400 a year. There are now no fewer than twenty of these officers in the city of Dublin; population 292,000. A curious circumstance in this case was the fixing of salaries by an authority who did not pay them, for until 1898 the city district officers were paid by the Boards of Guardians. Agreeably to the provisions of the Public Health Act of 1874, the Treasury paid one-half of the salaries of medical officers of health and sanitary inspectors, who were, in consequence of the passing of the Public Health Act, appointed; it was also determined to give one-half of any increases of salaries of existing health officers. This arrangement was most unfair to Dublin, which was in effect punished instead of being rewarded for having appointed a large sanitary staff when they were not compelled by law to do so. On the other hand, the towns in which no sanitary staff, or totally insufficient ones, existed forthwith appointed their sanitary officers, and received from the Treasury, through the Local Government Board, a moiety of their salaries.

"It is to the credit of the Irish Local Government Board that on the passing of the Local Government (Ireland) Act they rectified the injustice under which Dublin had suffered for more than twenty years. The Board have now the disposal of the grant to sanitary authorities, and they pay half the salaries of all the public health officers who were in existence in 1874, or the persons who had succeeded them. The sum received for the year 1903 was £2,091.

"There is no reference to the subject of a retiring allowance to medical officers of health in the Public Health Act. In the case of an officer giving his whole time to the service of his authority, it would seem likely that, as in the case of other municipal whole-time officers, he would be entitled to a pension.

"As I am not a whole-time officer the Corporation of Dublin was so good as to get power to grant a pension to their medical officer of health. The 93rd section of the Dublin Corporation Act, 1890 (53 & 54 Vic., c. ccxlvi.) enacts that, with the approval of the Local Government Board, they may grant a retiring allowance not exceeding two-thirds of his salary to 'any medical officer of health of the Corporation.'

"A similar section was passed subsequently in an Act promoted by the Corporation of Belfast.

"When the Dublin Corporation Act was passed the payment of the district medical officers of health was made out of the Poor Rate. A question has now arisen: Does section 93 of the Corporation Act apply to them as well as the medical superintendent officer of health? Two district medical officers of health, having resigned, applied for pensions to the Corporation. The law agent of that body considered that the Corporation had no power to grant such pensions, as they (the district officers) were not contemplated when the Corporation Act of 1890 was obtained, and as no provision for pensions was made in the Act of 1878.

"The Irish Medical Association, therefore, submitted a case to Mr Matheson, an eminent King's Counsel. His opinion is too long to be read to the Conference. As regards the Local Government Board, their views seem to be rather in favour of those of the Corporation's law adviser.

"So long as the payment of the medical officers of health was in the hands of the Board of Guardians, it is usual to take into consideration, in determining the amount of their retiring allowances, their income from all official sources—vaccination, registration of births and deaths, fees, and public health salary. In future the Boards will, in all probability, take no account of their income as sanitary officers accruing after 1898. It is only common justice to the medical officers of health that power should be given to the sanitary anthorities who have succeeded the Boards of Guardians to grant retiring allowances to the medical officers of health. Indeed, it is to be hoped that at no distant date the Poor Law officers and medical officers of health will be placed as regards pensions in the same position as civil servants. At present the granting of pensions is wholly optional with the local authorities.

"The *ex-officio* medical officers of health are dissatisfied with the smallness of the salaries which they receive: for all Ireland they average £18 6s. a year. The Corporation of Dublin proposed in 1901 to increase their officers' salaries from £25 to £40 per annum, but the proposal was not approved by the Local Government Board.

"No inconsiderable proportion of the *ex-officio* officers would prefer not to have any sanitary duties imposed upon them, believing that they prejudice their medical practice. In visiting their patients nuisances come under their observation, to which they feel obliged to direct the attention of the sanitary anthority. Amongst the poorer, and to some extent the middle, classes, there is often an objection to have their dwellings disinfected after the occurrence of infectious disease in them. They may think it unnecessary or may dislike the inconvenience it causes them. In many cases the dispensary physician is not called in, and some other medical man's advice is sought for in the hope that he would not insist on disinfection being performed by the sanitary authority.

"Another reason why the dispensary physician is often ignored is due to the objection some persons have to go to a fever hospital, or to allow persons in their charge (except employees) to be removed to it. As the medical officer would in all probability insist on the removal to hospital of a fever patient unprovided with proper accommodation, or who was likely to endanger the health of persons residing in the same house, a physician less likely to be so uncompromising is sent for.

"It has been suggested that in the next Public Health Act for Ireland *ex-officio* medical officers of health should be abolished. A Commission appointed in 1900 by the Lord Lieutenant to inquire into the causes of the high death-rate in Dublin, recommended the abolition of *ex-officio* officers of health in Dublin and the substitution therefor of an assistant whole-time officer. I am inclined to think the recommendation a good one if it could be carried out without inflicting pecuniary loss on the present officers. As regards Ireland at large, it would be difficult, or impossible, to get in many a district any medical man other than the Poor Law officer, for the simple reason that he is the only medical man in it. Instead of abolishing the *ex-officio* officers it would be better to institute medical officers of health in connection with the County Councils. The appointments should be made compulsory, and the officers should give their whole time to the duties. They should have a small number of sanitary inspectors, with jurisdiction extending over the whole county. Rural sanitation is sadly neglected in Ireland, and practically there are no whole-time sanitary sub-officers in the rural districts. The relieving officer is generally also the sanitary sub-officer with a trifling salary.

"An energetic medical superintendent officer of health would find ample and useful employment in every county in Ireland. Much of the milk supplied to towns comes from farms the hygiene of which is very insufficiently inquired into. Nuisances of all kinds are to be found in the country as well as in the town. Many of the former cannot be dealt with by the local medical officer of health; he cannot get his petty local Board to deal with them, or perhaps he finds it incompatible with his interests to take too energetic action as regards them. Those responsible for an insanitary state of things are his patients, or the members of his Board of Guardians. It is not worth his paltry salary of £10 or £15 a year to offend them. Notwithstanding the unpleasant position in which hygienic activity places the rural health officer, many of them do their best to remedy insanitary evils, and suffer for their activity and zeal.

"A county medical officer and two or three sanitary inspectors, independent of local influences, irremovable except for misconduct, and entitled to a pension, would do more good than can ever be accomplished by the existing sanitary organisations. The nature of the duties of medical officers of health and medical superintendent officers of health are set out in a Sanitary Order of the Local Government Board to the County Boroughs of Dublin and Belfast. This I need not give here as it is well known."

VIII. A STERILISER FOR INFECTED DISCHARGES.

At the Sanitary Congress, held at Folkestone last July, Major H. A. Cummins, R.A.M.C., read a paper showing the desirability of disinfecting alvine and other discharges from hospitals. In South Africa, whilst in charge of a hospital during an epidemic of enteric fever, he boiled the infected excreta and slops. A small quantity of izol or carbolic acid added to the excreta effectually masked or destroyed the unpleasant odour. Since his return he has designed an apparatus for treating the infective discharges. It consists of a vessel divided into two compartments, each provided with a siphon and enclosed in a hearth provided with a gas or coal fire, and a hood from which a flue proceeds. The siphons are connected through valves to a common pipe. The upper and lower parts of the apparatus communicate with the hearth, through which the products of combustion from the fire rise quickly and cause a draught which carries the vapours from the vessel up to the chimney. The matters to be disinfected are placed in one compartment of the vessel, and the utensils which had contained them in the other. Some disinfectant may be added. A boiling temperature applied destroys the bacilli of the disease. When convenient, steam may be used to produce the required temperature. Messrs. J. Defries & Sons, of London, have constructed Major Cummins' apparatus. It may, says the Major, be considered "a sterilising water-closet." It may, of course, be used in connection with diseases other than enteric fever.

CÆCAL HÆMORRHAGE CAUSED BY VALVULAR DISEASE OF THE HEART.

At a meeting of the Academy of Medicine of Paris M. Benjamin brought forward a case of cæcal hæmorrhage following on valvular disease of the heart in a horse six years old. The cæcum was found full of blood and serum. The heart was suffering from excentric hypertrophy, and marked initial insufficiency. In the case of a very valuable stallion that died suddenly from intestinal hæmorrhage an identical condition of the heart was also found by him.—*Gaz. Méd. de Paris*, Année LXXV., Serie xiii., Tome iv.

PART IV.

MEDICAL MISCELLANY.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D. Dubl.; D.Sc. Oxon.;
F.R.C.P.I.; F.R. Met. Soc.;
Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, July 16, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending July 16, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 17.4 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289.

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	June 25	July 2	July 9	July 16			June 25	July 2	July 9	July 16	
22 Town Districts	17.5	17.4	17.1	17.5	17.4	Lisburn -	22.7	18.2	–	9.1	12.5
Armagh -	20.6	–	13.7	27.5	15.5	Londonderry	12.6	20.2	11.3	17.6	15.4
Ballymena	14.4	9.6	33.5	38.3	23.9	Lurgan -	8.9	–	17.7	4.4	7.8
Belfast -	17.6	17.3	17.7	16.6	17.3	Newry -	12.6	21.0	4.2	4.2	10.5
Clonmel -	20.5	15.4	5.1	5.1	11.5	Newtownards	11.4	45.8	5.7	17.2	20.0
Cork -	19.2	14.4	19.2	13.7	16.6	Portadown -	–	5.2	5.2	15.5	6.5
Drogheda -	8.2	8.2	4.1	4.1	6.2	Queenstown	19.8	13.2	6.6	19.8	14.9
Dublin - (Reg. Area)	19.5	16.5	17.9	19.3	18.3	Sligo -	4.8	4.8	38.4	28.8	19.2
Dundalk -	8.0	12.0	27.9	12.0	15.0	Tralee -	10.6	63.4	5.3	21.1	25.1
Galway -	11.7	31.1	11.7	38.8	23.3	Waterford -	13.6	13.6	29.2	21.4	19.4
Kilkenny -	39.3	9.8	19.7	19.7	22.1	Wexford -	18.7	37.4	4.7	18.7	19.9
Limerick -	15.0	27.3	15.0	12.3	17.4						

The deaths registered in each of the four weeks ended Saturday, July 16, and during the whole of that period, in the several districts, alphabetically arranged, correspond to the annual rates per 1,000 in the foregoing Table.

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, July 16, 1904, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in seventeen of the districts to 6.6 in Queenstown. Among the 114 deaths from all causes registered in Belfast are one from measles, 3 from whooping-cough, 3 from enteric fever, and 3 from diarrhœal diseases. The 14 deaths from all causes in Londonderry include one from diphtheria and 3 from diarrhœal diseases.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, July 16, 1904, amounted to 172—93 boys and 79 girls; and the deaths to 146—80 males and 66 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 20.1 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the area, the rate was 19.3 per 1,000. During the twenty-eight weeks ending with Saturday, July 16, the death-rate averaged 25.7, and was 1.4 below the mean rate for the corresponding portions of the ten years 1894–1903.

The total (146) deaths registered include 10 from measles, one from influenza, 3 from whooping-cough, one from diphtheria, 2 from enteric fever, and 2 from *diarrhœa*. Not one death was registered from small-pox, scarlet fever, or typhus. In the 3 weeks preceding, one, 2, and 2 deaths, respectively, from measles were registered.

The 27 deaths from tuberculous disease include 6 from tubercular phthisis, 15 from *phthisis*, 2 from tubercular meningitis, one from tubercular peritonitis, and 3 from other forms of the disease.

There were 2 deaths from broncho-pneumonia and 6 deaths from *pneumonia*.

Two deaths from carcinoma and 3 from *cancer* (*malignant disease*) were recorded.

The deaths of 3 infants were assigned to prematurity.

Of 13 deaths classified under diseases of the nervous system, 10 (all being children under 5 years of age) were attributed to *convulsions*.

Seventeen deaths were attributed to diseases of the heart and blood-vessels.

There were 17 deaths from bronchitis.

Of 3 deaths due to accidental causes, one was by drowning.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 4 children under one year old.

Fifty-four of the persons whose deaths were registered during the week ended July 16 were under 5 years of age (36 being infants under one year, of whom 15 were under one month old), and 32 were aged 60 years and upwards, including 12 persons aged 70 and upwards, of whom 3 were octogenarians, and one (a woman) was stated to have been aged 96 years.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended July 16, 1904, and during each of the preceding three weeks

Cities and Urban Districts	Week ending	Small-pox	Measles	Rubella, or German Measles	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	June 25	-	-	-	5	-	-	6	-	2	15	10	-	-	-	38
	July 2	-	-	-	13	-	-	6	-	10	23	7	-	-	-	59
	July 9	-	-	-	3	-	-	1	-	2	10	17	-	-	-	33
	July 16	-	-	-	6	-	-	4	-	1	4	11	-	-	-	26
Rathmines and Rathgar Urban District	June 25	-	-	-	2	-	-	1	-	-	-	-	-	-	1	4
	July 2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	July 9	-	-	-	1	-	-	-	-	-	-	1	-	-	-	2
	July 16	-	-	-	5	-	-	1	-	-	1	-	-	-	-	7
Pembroke Urban District	June 25	-	2	-	-	-	-	1	-	-	-	-	-	-	11	14
	July 2	-	3	-	1	-	-	1	-	-	-	1	-	-	1	7
	July 9	-	14	-	1	-	-	-	-	-	-	-	-	-	2	17
	July 16	-	10	-	-	-	-	2	-	-	1	-	-	-	3	16
Blackrock Urban District	June 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	July 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	July 9	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
	July 16	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
Kingstown Urban District	June 25	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	July 2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	July 9	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	July 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Belfast	June 25	3	-	-	5	-	-	2	5	12	10	10	-	-	-	47
	July 2	5	-	-	10	-	-	4	1	6	4	7	1	-	-	38
	July 9	2	-	-	7	-	-	5	2	2	2	4	-	-	-	24
	July 16	2	-	-	8	-	-	3	-	8	4	4	-	-	-	29

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, July 16, 1904, 22 cases of measles were admitted to hospital, 24 were discharged, 4 died, and 77 patients remained under treatment at its close.

Nine cases of scarlet fever were admitted to hospital, 10 cases were discharged, and 50 cases remained under treatment at the close of the week. This number is exclusive of 18 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Six cases of diphtheria were admitted to hospital, 4 were discharged, and 19 cases remained under treatment at the close of the week.

Five cases of enteric fever were admitted to hospital, 4 cases were discharged, there was one death, and 50 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 8 cases of pneumonia were admitted to hospital, 9 patients were discharged, there was one death, and 16 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, July 16, 1904, in 76 large English towns, including London (in which the rate was 12.9), was equal to an average annual death-rate of 13.7 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 14.8 per 1,000, the rate for Glasgow being 15.3, and for Edinburgh 13.4.

VITAL STATISTICS.

For four weeks ending Saturday, August 13, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending August 13, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 19.6 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, August 13, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	July 23	July 30	Aug. 6	Aug. 13			July 23	July 30	Aug. 6	Aug. 13	
22 Town Districts	15.6	15.9	17.6	19.6	17.2	Lisburn	22.7	13.6	9.1	13.6	14.8
Armagh	6.9	6.9	27.5	48.1	22.3	Londonderry	8.8	8.8	17.6	10.1	11.3
Ballymena	4.8	4.8	23.9	4.8	9.6	Lurgan	8.9	17.7	8.9	8.9	11.1
Belfast	16.3	16.7	15.8	18.6	16.9	Newry	25.2	8.4	4.2	4.2	10.5
Clonmel	10.3	15.4	41.0	10.3	19.2	Newtownards	17.2	5.7	11.4	5.7	10.0
Cork	13.7	13.0	17.1	18.5	15.6	Portadown	15.5	31.0	5.2	10.3	15.5
Drogheda	24.5	8.2	8.2	12.3	13.3	Queenstown	6.6	6.6	–	–	8.3
Dublin (Reg. Area)	17.5	17.9	21.2	27.0	21.9	Sligo	14.4	14.4	9.6	4.8	10.8
Dundalk	16.0	4.0	8.0	16.0	11.0	Tralee	5.3	–	31.7	5.3	10.6
Galway	11.7	11.7	7.8	7.8	9.8	Waterford	11.7	9.7	19.5	9.7	12.7
Kilkenny	14.7	14.7	4.9	9.8	11.0	Wexford	4.7	28.0	28.0	4.7	16.4
Limerick	13.7	23.2	15.0	20.5	18.1						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, August 13, 1904, were equal to an annual rate of 3.7 per 1,000, the rates varying from 0.0 in fifteen of the districts to 20.6 in Armagh—the 7 deaths from all causes registered in that district including one death from small-pox of a person who was never vaccinated, one from whooping-cough, and one from diarrhœa. The 128 deaths from all causes registered in Belfast include 5 from whooping-cough, one from diphtheria, one from enteric fever, and 17 from diarrhœal diseases.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week ended Saturday, August 13, amounted to 209—116 boys and 93 girls; and the deaths to 199—101 males and 98 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 27.4 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the Area, the rate was 27.0 per 1,000. During the thirty-two weeks ending with Saturday, August 13, the death-rate averaged 25.1, and was 1.4 below the mean rate for the corresponding portions of the ten years 1894–1903.

The total (199) deaths registered include 5 from measles, one from scarlet fever, 4 from whooping-cough, 2 from diphtheria, one from enteric fever, and 33 from diarrhœal diseases. In the 3 preceding weeks 5, 4, and 3 deaths from measles were respectively registered; also 3, 2, and 4 deaths from whooping-cough; 0, one, and 2 deaths from diphtheria; and 5, 5, and 15 deaths from diarrhœal diseases.

One death from tetanus was registered.

There were 3 deaths from broncho-pneumonia and 6 deaths from *pneumonia*.

Of 37 deaths from tuberculous disease, one was assigned to tubercular phthisis, 24 were assigned to *phthisis*, 2 to tubercular meningitis, one to tabes mesenterica, and 9 to other forms of the disease.

Five deaths were caused by *cancer* (*malignant disease*).

Twenty-one deaths (including 11 of children under 5 years from *convulsions*) were caused by diseases of the nervous system.

Nineteen deaths were due to diseases of the heart and blood-vessels.

There were 8 deaths from bronchitis.

Of 3 deaths from accidental causes, one was that of a child 3 years old from burns, and one was caused by drowning.

In 7 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 4 children under 5 years of age (including 3 infants under one year old) and the death of a person aged 77 years.

Ninety-four of the persons whose deaths were registered were under 5 years of age (69 being infants under one year, of whom 7 were under one month old), and 38 were aged 60 years and upwards, including 19 persons aged 70 and upwards, of whom 5 were octogenarians, and one (a woman) was stated to have been aged 97 years.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished.

In addition, the Registrar of Dundalk Urban District in his weekly report states "there are 6 cases of small-pox at present in the Isolation Hospital (two only occurred in the Dundalk District); all patients are doing well."

The Registrar of Drogheda No. 3 reports that one case of small-pox was admitted to hospital during the week ended August 13.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended August 13, 1904, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or German Measles.	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Whooping-cough	Diarrhœal Diseases	Total
City of Dublin	July 23	-	-	-	10*	-	-	7	-	3	7	18	-	-	-	45
	July 30	-	-	-	3	-	-	2	-	10	12	11	1	-	-	39
	Aug. 6	-	-	-	3	-	-	1	-	-	12	9	-	-	-	25
	Aug. 13	3	-	-	10	-	-	2	-	6	5	13	-	-	-	39
Rathmines and Rathgar Urban District	July 23	-	-	-	4	-	-	1	-	-	-	-	-	-	-	5
	July 30	-	-	-	1	-	-	2	-	-	1	-	-	-	1	5
	Aug. 6	-	-	-	-	-	-	1	-	-	2	-	-	-	-	3
	Aug. 13	-	-	-	1	-	-	-	-	-	-	-	-	-	3	4
Pembroke Urban District	July 23	-	21	-	-	-	-	-	-	-	-	1	-	5	-	27
	July 30	-	11	-	-	-	-	-	-	-	-	1	-	5	-	17
	Aug. 6	-	14	-	-	-	-	-	-	-	1	-	1	1	-	17
	Aug. 13	-	9	-	2	-	-	1	-	-	-	-	-	4	-	16
Blackrock Urban District	July 23	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	July 30	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Aug. 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aug. 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kingstown Urban District	July 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	July 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aug. 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aug. 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Belfast	July 23	-	-	-	11	-	-	2	-	10	7	5	-	-	-	35
	July 30	1	-	-	8	-	-	1	1	4	5	5	-	-	-	25
	Aug. 6	1	-	-	10	1	-	2	-	15	10	3	-	-	-	42
	Aug. 13	-	-	-	10	1	-	1	-	14	13	9	2	-	-	50

* Including one case of scarlatina and diphtheria.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, August 13, 1904, 3 cases of small-pox were admitted to hospital, and remained under treatment on Saturday.

Nineteen cases of measles were admitted to hospital during the week, 25 were discharged, one patient died, and 65 patients remained under treatment at its close.

Six cases of scarlet fever were admitted to hospital, 11 cases were discharged, there was one death, and 34 cases remained under treatment at the close of the week. This number includes 17 convalescents still under treatment in Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Three cases of diphtheria were admitted to hospital, one patient died, and 12 cases remained under treatment at the close of the week.

Eight cases of enteric fever were admitted to hospital, 6 cases were discharged, and 38 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 3 cases of pneumonia were admitted to hospital, 4 patients were discharged, and 10 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, August 13, 1904, in 76 large English towns, including London (in which the rate was 21.4), was equal to an average annual death-rate of 22.1 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 15.7 per 1,000, the rate for Glasgow being 17.4, and for Edinburgh 15.2.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of July,* 1904.

Mean Height of Barometer,	29.968 inches.
Maximal Height of Barometer (17th, at 9 p.m.),	30.290 ,,
Minimal Height of Barometer (1st, at 9 a.m.),	29.635 ,,
Mean Dry-bulb Temperature,	59.9°.
Mean Wet-bulb Temperature,	56.4°.
Mean Dew-point Temperature,	53.2°.
Mean Elastic force (Tension) of Aqueous Vapour,	.408 inch.
Mean Humidity,	79.3 per cent.
Highest Temperature in Shade (on 30th),	74.7°.
Lowest Temperature in Shade (on 7th),	48.0°.
Lowest Temperature on Grass (Radiation) (7th),	43.9°.
Mean Amount of Cloud,	56.6 per cent.
Rainfall (on 15 days),	1.088 inches.
Greatest Daily Rainfall (on 15th),	.319 inch.
General Directions of Wind,	E.N.E., W.S.W.

Remarks.

A warm and generally favourable month, rain falling frequently indeed, but in Dublin on no occasion very heavily. After a long spell of dry and hot weather, the fourth week (ending on Saturday, the 30th) was gloomy and very wet in central England and the Thames Valley—the rainfall of this week was 2.88 inches on 6 days at Oxford, compared with .292 inch on 4 days in Dublin. The spell of broken weather in England was ushered in by severe and fatal thunderstorms on Monday, the 25th. In Dublin the only electrical disturbances of the month occurred on the 19th, on which day the sky bore a very threatening aspect. On the 30th, 2.16 inches of rain fell at Hillington, in Norfolk, during a thunderstorm. The duration of bright sunshine was estimated at 212.7 hours, or a daily average of 6.8 hours, compared with a twenty years' average (1881–1900) of 166.8 hours recorded at the Ordnance Survey Office, Phœnix Park.

In Dublin the arithmetical mean temperature (61.6°) was above the average of the 30 years 1871–1900 (60.3°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 59.9°. In the forty years ending with 1904, July was coldest in 1879 (" the cold year ") (M. T. = 57.2°). It was warmest in 1887 (M. T. = 63.7°); in 1868 ("the warm year") and in 1901 (M. T. = 63.5°). In 1900 the M. T. was 63.4°; in 1903, it was 60.1°.

The mean height of the barometer was 29.968 inches, or 0.053 inch above the corrected average value for July—namely, 29.915 inches. The mercury rose to 30.290 inches at 9 p.m. of the 17th, and fell to 29.635 inches at 9 a.m. of the 1st. The observed range of atmospheric pressure was, therefore, only .655 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 59.9°, or 3.2° above the value for June, 1904. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* × .465), the value was 61.1°, or 1.3° above the average mean temperature for July, calculated in the same way, in the thirty years 1871–1900 inclusive, (59.8°). The arithmetical mean of the maximal and minimal readings was 61.6°, compared with a thirty years' average of 60.3°. On the 30th, the thermometer in the screen rose to 74.7°—wind, S.W.; on the 7th the temperature fell to 48.0°—wind, W.N.W. The minimum on the grass was 43.9°, also on the 7th.

The rainfall was only 1.088 inches, distributed, however, over 15 days. The average rainfall for July in the thirty-five years 1866–1900, inclusive, was 2.560 inches, and the average number of rainy days was 18. The rainfall, therefore, and the rainy days were much below the average. In 1880 the rainfall in July was very large—6.087 inches on 24 days; in 1896, also, 5.474 inches fell on 18 days. On the other hand, in 1870, only .539 inch was measured on 8 days; in 1869, the fall was only .739 inch on 9 days; and in 1868, .741 inch fell on but 5 days. In 1903, 4.018 inches fell on 23 days.

High winds were noted on 6 days, but never attained the force of a gale. Temperature reached or exceeded 70° in the screen on 10 days, compared with 7 days in July, 1903, and the same number of days in July, 1902. In July, 1887, temperature reached or exceeded 70° in the screen on no fewer than 17 days. In 1888 the maximum for July was only 68.7°. The thermometer never failed to reach 60°.

Thunder was heard on the 19th: lightning was seen on the night of the same day. There was also a thunderstorm on the 19th. The atmosphere was foggy on the 22nd, 23rd, and 24th.

The rainfall in Dublin during the seven months ending July 31st amounted to 13.905 inches on 117 days, compared with 19.072 inches on 131 days in 1903, 15.507 inches on 115 days in 1902, 11.432 inches on 93 days in 1901, 17.609 inches on 129 days in 1900, 14.416 inches on 107 days in 1899, 13.060 inches on 106 days in 1898, 15.600 inches on 125 days in 1897, 13.328 inches on 102 days in 1896, 16.785 inches on 96 days in 1895, 7.935 inches on 80 days in 1887, and a thirty-five years' average of 14.620 inches on 113 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.968 inches, the range of atmospheric pressure being from 29.629 inches at 9 a.m. of the 1st to 30.296 inches at 9 p.m. of the 17th. The mean value of the readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 60.1°. The arithmetical mean of the daily maximal and minimal temperatures was 60.9°. The screened thermometers rose to 74.9° on the 20th, and fell to 47.9° on the 7th. On this latter date the grass minimum was 42.2°. On the 30th the black bulb *in vacuo* rose to 135.1°. Rain fell on 14 days to the amount of 1.064 inches, the greatest fall in 24 hours being .300 inch on the 15th. The duration of bright sunshine, according to the Campbell-Stokes recorder was 201 hours, of which 14½ occurred on the 7th and the same number on the 8th.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in July was 1.395 inches on 15 days, compared with 2.790 inches on 17 days in 1903, 4.550 inches on 11 days in 1902, 2.390 inches on 10 days in 1901, 5.140 inches on 15 days in 1900, 3.480 inches on 14 days in 1899, 1.145 inches on 6 days in 1898, 1.625 inches on 10 days in 1897, 5.726 inches on 16 days in 1896, and 3.680 inches on 16 days in 1895. Of the total rainfall .280 inch fell on the 14th. The total fall since January 1 has been 15.702 inches on 109 days, compared with 20,230 inches on 107 days in 1903, 19,641 inches on 95 days in 1902, 16.060 inches on 85 days in 1901, 23.331 inches on 120 days in 1900, 22.990 inches on 109 days in 1899, 14.645 inches on 94 days in 1898, 19.750 inches on 116 days in 1897, 13.082 inches on 77 days in 1896, and 17.950 inches on 83 days in 1895.

At Cloneevin, Killiney, Co. Dublin, the rainfall in July was only .77 inch on 15 days, compared with a nineteen years' (1885–1903) average of 2.673 inches on 15.3 days. On the 15th the rainfall was .13 inch. In July, 1903, 3.54 inches fell on 19 days; in 1902, 3.64 inches on 13 days; in 1901, 2.80 inches on 13 days;

in 1900, 4.56 inches on 16 days; in 1899, 3.48 inches on 17 days; in 1898, .84 inch on 7 days; in 1897, 1.28 inches on 10 days; in 1896, 6.72 inches on 20 days; in 1895, 3.58 inches on 17 days. Since January 1, 1904, 13.69 inches of rain have fallen on 110 days at this station, compared with 18.38 inches on 129 days in the corresponding 7 months of 1900, 13.54 inches on 95 days in 1901, 16.90 inches on 111 days in 1902, and 17.39 inches on 122 days in 1903.

Dr. Arthur S. Goff reports that at Lynton. Dundrum, County Dublin, the rainfall was 1.22 inches on 17 days. The maximal fall in 24 hours was .31 inch, measured on the 15th. The mean temperature was 63.6°, the range being from 79° on the 8th to 51° on the 7th. In July, 1901, 2.65 inches of rain fell at this station on 11 days, in July, 1902, 4.27 inches on 19 days, and in July, 1903, 3.66 inches on 24 days.

Dr. B. H. Steede reports that at the National Hospital for Consumption, Newcastle, Co. Wicklow, the July rainfall was 2.256 inches on 17 days, compared with 3.796 inches on 13 days in 1902, and 4.309 inches on 22 days in 1903. The maximal temperature in the shade was 71.5° on the 6th, the minimal shade temperature was 43.0° on the 2nd. The heaviest daily rainfalls were .440 inch on the 15th, and .410 inch on the 14th. At this station the rainfall in June was 2.494 inches on 12 days; the thermometer rose to 66.3° in the screen on the 4th, and fell to 43.0° on the 27th. The rainfall from January 1 to July 31, inclusive, was 19.248 inches on 121 days, compared with 18.274 inches on 108 days in the first seven months of 1902, and 23.855 inches on 130 days in that period of 1903.

At the Royal Botanic Gardens, Glasnevin, Dublin, rain fell on 14 days to the amount of 1.32 inches, the greatest rainfall in 24 hours being .37 inch on the 25th.

The rainfall at the Ordnance Survey Office, Phœnix Park, Dublin, was 1.440 inches on 16 days. This amount includes a measurement of .365 inch on the 25th. The total amount of sunshine was 207.0 hours, the largest daily duration being 15.2 hours on the 7th.

At the Railway Hotel, Recess, Connemara, the rainfall was 5.866 inches on 17 days. The maximal falls for the month were .650 inch on the 4th and again on the 21st, .620 inch on the 12th, and .610 inch on the 13th. There were frequent heavy showers.

At Cork, 3.56 inches of rain fell, or 1.11 inches over the average, the number of rainy days being 16, and the greatest day's rainfall being .91 inch on the 14th.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 60.7°, being 0.3° below the average for July during the previous 6 years, the extremes being—highest, 74.2° on the 20th; lowest, 48.5° on the 7th. At Bournemouth the mean was 64.5°, the extremes being—highest, 80° on the 20th; lowest, 51° on the 3rd. These figures again confirm the statement that the summer heat on the south coast of England is excessive as compared with that of Kingstown. The mean daily range of temperature at Kingstown was 13°, and at Bournemouth 14.7°. The relative humidity was 75 per cent. The mean temperature of the sea at Sandycove bathing-place was 55.4°, being 2.6° below the average for the month during the previous 6 years. The total rainfall was 0.67 inch on 14 days, being 2.27 inches below the average for July during 14 previous years (1873–83) and (1901–03), and the absolute lowest for the month during these 14 years, excepting July, 1878, which amounted only to 0.45 inch. The total rainfall at Bournemouth was 2.11 inches on 10 days. The total duration of bright sunshine was 203.2 hours, as compared with 207 hours at the Ordnance Survey Office, Phœnix Park, 188.3 hours at Valentia, 154.4 hours at Parsonstown, 196.4 hours at Southport, and 242.4 hours at Eastbourne.

CARBOLIC ACID IN SMALL-POX.

AN extraordinarily rapid involution of small-pox was seen by L. W. Seymour (*Semaine médicale*, 1903, No. 16, page 132) to result from the internal administration of carbolic acid, which he prescribed in the following manner:—℞ Acidi Carbolici Liquefacti, min. xii; Quininæ Sulphatis, gr. 12; Acidi Sulphurici diluti, min. xx; Glycerini, min. xl; Aquæ destillatæ, ℥iv. M. ft. mist. Signa: One-fourth part to be taken at intervals of 4 hours.—*E. Merck's Annual Reports*, Vol. XVII., 1903, p. 5. Darmstadt, May, 1904.

PERISCOPE.

THE LIVER AND THE APPENDIX!

THE unconquerable vermiform appendix has displayed its capabilities of mischief in yet another direction! It causes *cirrhosis of the liver* in some persons; and this clinical fact has recently been ably discussed by MM. Th. Tuffier and A. Mauté (*La Presse Médicale*, 29 Juin, 1904). But recently Professor Dieulafoy introduced the "*appendicular liver*" to the admiring gaze of the pathological world: this included not only *purulent infective hepatitis*, but a toxic hepatitis, characterised by a degeneration of the parenchyma produced by acute intoxication. Either of these complications is far from rare. Bertholin collected, in 1895, 28 cases of *hepatic abscess* traceable to an *appendicular* origin. [*Complications hépatiques de l'appendicite.* These, Paris, 1895.] Quite a considerable number of observers have since that date added observations of their own to the list. Cases of *acute toxic* (or toxi-infective) *hepatitis* have been recorded by Dieulafoy, Lorrain, Barth, and Ménétrier and Aubertin. Consideration of these notable facts and their comparatively rapid accumulation led MM. Tuffier and A. Mauté to inquire whether the relationship of cause and effect could not be more widely established between pathological appendix and morbid liver; and whether a chronically diseased appendix might not sometimes be incriminated with the genesis of the cirrhoses of intestinal origin. These observers believe that they have collected convincing evidence of such connection. Letulle, in 1879, had found an annular cirrhosis in a youth of sixteen, who had succumbed to a perforative appendicitis. Achard, in 1894, met with a case in which patches of sclerosis were found in the liver of a patient who had been the victim of suppurative hepatitis. In the course of last year Barth published the clinical history of a case of appendicitis which terminated in recovery, but in which he had found that the local infection had produced a considerable tumefaction of the liver in the course of some hours, with a feeling of "hardness comparable to that of cirrhosis." The occurrence of jaundice in connection with appendicitis has often been noticed. MM. Ménétrier and Aubertin published last year two cases of acute yellow atrophy of the liver of appendicular origin. Now, the last link supplied towards bridging over the space between the appendix below and the liver above is offered by MM. Tuffier and Mauté. In the case of a lad of sixteen, who succumbed to peritoneal (and other) complications of appendicitis, these observers found a liver with thickened edges, resistant to the touch, of greyish yellow tint, presenting a finely granular surface on section—with undeniable features of clearly defined *portal cirrhosis* shown by microscopic examination. We cannot help asking ourselves what mischief is the appendix going to do next!

ROYAL ARMY MEDICAL CORPS.

The undermentioned gentlemen were successful at the examination held in London in July, 1904, for Commissions in the R.A.M.C., and for which 49 candidates entered:—

Marks.	
590	William Byam, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
586	Charles Ryley, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H. (Lond.).
571	Harry Theodore Wilson, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
567	Lionel Victor Thurston, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
565	Walter Hyde Hills, M.B., B.C. and B.A. (Cantab.).
560	Patrick Dwyer, M.B., B.Ch. (R.U.I.).
556	Phillip Claude Tresilian Davy, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B. (Lond.).
547	John Forbes Cock Mackenzie, M.B., B.S. (Melbourne).
540	Arthur William Gater, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
536	George Alfred Duncan Harvey, L.R.C.P. & S.I.
536	Harold Charles Winckworth, M.R.C.S. (Eng.), L.R.C.P. (Lond.), L.D.S. (Eng.).
534	James Campbell, M.B., B.Ch. (R.U.I.).
531	Richard Collis Hallowes, M.B., B.Ch., B.A.O. (Dubl.). B.A. (Dubl.).
530	Harry William Russell, M.B., B.Ch. (Vict.).
523	George Richard Painton, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
523	Meurice Sinclair, M.B., B.Ch. (Edin.).
512	Evelyn John Hansler Luxmore, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
505	Kenneth Alan Crawford Doig, M.R.C.S. (Eng.), L.R.C.P. (Lond.).

Marks.	
503	Herbert Owen Marsh Beadnell, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
500	Herbert St. Maur Carter, M.D., M.B., B.Ch. (Dubl.), B.A. (Dubl.).
499	Robert Harry Lucas Cordner, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
494	John Patrick Lynch, L.R.C.P. & S.I.
490	Alastair Norman Fraser, M.B., B.Ch. (Edin.).
489	Nelson Low, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
487	Percy Arnold Jones, M.R.C.S. (Eng.), L.R.C.P. (Lond.), B.A. (Cantab.).
485	Cecil Roy Millar, L.R.C.P. & S.I.
482	Agustine Thomas Frost, M.B., B.Ch. (R.U.I.).
482	George Herbert Richard, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
482	Harry Christopher Sidgwick, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B. and B.A. (Cantab.).
477	John St. Aubyn Maughan, L.R.C.P. & S. (Edin.), L.F.P. & S. (Glas.).

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on Thursday, July 28th, 1904, the following gentlemen, having passed the necessary examinations, were admitted Fellows of the College:—David Macrae Aitken, M.B., Ch.B., Edinburgh; Robert Gordon Bell, M.D., Sunderland; Chiranjiva Bharadwaja, L.R.C.S.E., Edinburgh; William Thomas Chenhall, M.D., Sydney; Frederick Gardiner, M.D., Edinburgh; Alfred Griffiths, M.B., C.M., Falkirk; Arthur Gwyther, M.B., C.M., Captain, I.M.S.; Thomas Dufour Halahan, M.B., Ch.B., Devonport; Claude Somerville Hawkes, M.R.C.S. Eng., Queensland; Edmund Moritz Illington, M.R.C.S. Eng., Captain, I.M.S.; James Frederick Merrillees, M.B., Ch.B., Melbourne; Thomas Mill, M.B., Ch.B., Cardiff; Philip Henry Mules, M.B., L.R.C.S.E., Edinburgh; Lionel Charles Peel Ritchie, M.B., Ch.B., Edinburgh; Oscar Bagster Trumper, M.B., Ch.B., Market Rasen; and Henry Woolmington Webber, M.D., M.R.C.S. Eng., Plymouth. The Medal and set of books forming the "Bathgate Memorial Prize," presented to the College by Colonel William Lorimer Bathgate in memory of his late father, William McPhune Bathgate, Fellow of the College, was awarded to Mr. Robert Macnaught Glover, Carlton House, Dumfries.

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OF

MEDICAL SCIENCE.

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PART I.

ORIGINAL COMMUNICATIONS.

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ART. XIV.—*The Use of the X-rays as an Aid to the Early Diagnosis of Pulmonary Tuberculosis.* By A. STANLEY GREEN, M.B., B.S. (London).

THAT the X-rays are of great value in the diagnosis of some diseases of the chest will, I think, be conceded by all who have had experience in this branch of Röntgen ray work, and of their great value in the diagnosis of early pulmonary tuberculosis is the text of this brief paper. It must not be thought that a patient can be placed before the screen, or photographed, and a definite diagnosis made of the condition present in the lungs, without due attention being paid to history, symptoms, physical signs, and also to the examination of the sputum, any more than a physician can make an examination of the fundus oculi with an ophthalmoscope and say that the patient has interstitial nephritis or a cerebellar tumour, or any of the diseases in the diagnosis of which the ophthalmoscope plays an important part, without at the same time making a thorough examination by all the recognised means at his command. If this *important* point is thoroughly grasped by both physicians and Röntgen ray experts, I believe that the X-rays will be found as valuable in the diagnosis of early tubercular deposit in the lungs (certainly one of the most important questions before the medical profession and the State at the present time) as the ophthalmoscope is in the diagnosis of many diseases. The great value of this method of diagnosis will, however, be fully appreciated only when a larger number of medical men begin to work on this subject and publish their results. I believe that all doubtful and suspicious cases will then be subjected to a thorough examination by the X-rays, and the presence of the disease will be discovered earlier than it otherwise would be, and, therefore, the prospect of cure will be greatly increased, and our sanatoria be given the opportunity of carrying out more permanent and valuable work than they can at present, owing to the fact that so many patients are not sent to them sufficiently early. There is often a difficulty in persuading patients that they have the dread disease, but a good radiogram of the diseased lung shown to the patient or friends side by side with a radiogram of a healthy lung will convince even the most sceptical of the stern fact, and they will then be more willing to undergo the expense and trouble of sanatorium treatment. This was first brought home to me by a case I saw eighteen months ago, in which neither the patient nor her parents had the slightest suspicion of lung trouble, and, in fact, would not believe it possible until I showed them the photograph. Having seen this evidence, they were only too glad to begin treatment at once, and this was carried out with the happiest results. There is another side to the question also, which is important, and that is, that where, by the ordinary methods of diagnosis, a patient might be thought to have a very good chance of improvement or recovery if sent away to a sanatorium, a radiogram would show the disease to be so far advanced as to preclude any hope of amelioration, and the patient would be saved the useless expense he would otherwise be put to. This will be more readily understood later when I point out how often this method of examination will demonstrate involvement of both lungs when the physical signs had shown deposition on one side only. Apart from ethical reasons, it is very important that this work should remain in the hands of medical men, and not be given over to chemists and photographers. It is not so necessary to emphasise this point in Dublin as it is in England, where, unfortunately, so much of this work is handed over by medical men to unqualified workers, as is shown by the fact that one firm of instrument makers in London are able to go to the expense of devoting two large rooms to radiography, and also of keeping a man for this work, and *nearly all their cases are sent to them by medical men*. This speaks for itself.

As this paper is not illustrated I must describe the shadows which are thrown on the fluorescent screen and the photographic plate by the tube, and I will also describe, as far as possible, the lines along which I carry out my examinations.

The screen examination, to which I attach considerable importance, is carried out with the patient lying on a table with a vellum top and a tube placed in a box beneath, which is movable in both directions, or else standing up about eighteen inches from the tube, with the surface of the anode parallel to the greatest transverse diameter of the chest; and it is absolutely necessary for the patient to be stripped to the waist and the room kept at a suitable temperature. The light in the tube must be under perfect control, so that the penetration of the tissues may be varied at will. The first point to notice now is the position and movements of the diaphragm on the two sides. In a normal chest the diaphragm is slightly higher on the right side than the left; the movement of the diaphragm is in most cases seen to be of a plunging character, and in quiet respiration averages about ½ inch on either side, minimum (Dr. Halls Dally). The patient should then be asked to take a deep inspiration, followed by a full expiratory movement. The excursion of the diaphragm is again measured, and in the normal averages 2⅞ inches on the right side and 2⅝ inches on the left (Dr. Halls Dally); this is called the maximum. (The only difficulty experienced here is in determining the exact position of the diaphragm during deep expiration, this being especially the case on the left side, where the diaphragm and heart shadows coalesce. A little experience will, however, soon teach the observer.) The patient must then be examined with the screen on the chest and the tube at the back to ascertain the height and movements of the diaphragm as seen from the front. The importance of this was first pointed out by David Lawson in a paper read before the British Electro-

Therapeutic Society, where he demonstrated that where disease is more extensive or more active towards the posterior part of the lung, the amplitude of the range of movement of the diaphragm towards the back, as measured by the screen shadows, was considerably less in extent than the amplitude at the front; furthermore, the relative level of the diaphragm of the affected side, as compared with that on the unaffected side as seen from the *back*, was higher than observed at the *front*. Thus, in one case, where the shadow of the apices of the two lungs are most marked at the back, the right being more affected than the left during deep breathing, the range of movement at the back was exactly one-half that seen at the front. Again, in another case, where the right lesion was most marked at the back and the left was most marked at the front, the left side of the diaphragm, as seen from the front, was distinctly higher than the right; but from the back the normal relationship was preserved—*i.e.*, the right was slightly higher than the left. The normal lung tissue is seen to be perfectly transradiant, and shadows from the scapulæ must be carefully excluded by movements of the arms. Dr. H. Dally has classified the shadows according to the percussion note elicited over their position.

Other conditions which can be noted in the screen examination are the slope of the ribs and the width of the intercostal spaces, the position and shape of the heart, shadows and opacities in the lung, and the effect of deep inspiratory movements on these—a *very important point.* In a few cases small opacities can be seen in the mediastinum, suggestive of enlarged and perhaps calcareous glands.

The importance of this examination of the diaphragm will be understood when it is stated that "unilateral limitation of movement of the diaphragm is the earliest sign of pulmonary tuberculosis," and in no case which I have examined where this sign was noted (in the absence of a history of pleurisy) have I failed either at the same time or later to find deposits in the lungs. One case will illustrate this. A lad, aged eighteen, was sent to me for examination, complaining of loss of appetite, lassitude, and gradual loss of weight for the past three months. Finding nothing to account for this by the usual methods of examination, I took him to the X-ray room, and, placing him before the screen, it was apparent that the right side of his diaphragm was almost motionless, even during maximum inspirations; the left side was moving freely. At this stage no shadows could be detected in the lung tissue either by the screen or in the skiagram, but three weeks later another skiagram was taken, and there was then a definite deposit in the apex of the right lung. Physical signs still absent. In a month shadows were seen in both lungs, and physical signs were easily elicited. The patient was sent to a sanatorium, and is doing well. (Tubercle bacilli were constantly found in his sputum in large quantities.)

I have also seen cases, in which at the first examination the diaphragmatic movement was very limited, after a course of treatment show very marked improvement—one patient especially, whose skiagram I showed at the Clinical Society, London. When he first came to me he had a maximum expansion of ½ inch each side; after twelve months he had a minimum expansion of ¾ inch and a maximum of 1¾ on both sides, and this I showed by placing lead crosses on the skin at the level of the diaphragm in maximum expiration (seen on the screen), the skiagram being taken whilst the diaphragm was in the position of maximum inspiration. This illustrates a point of some importance—viz., that not only is unilateral limitation of diaphragmatic movement the earliest sign of pulmonary tuberculosis, but, if the history and symptoms are taken into consideration, the movements of the diaphragm may be taken as a measure of the *activity* of the disease; for I have only once seen a patient with active disease with free movement, and he was a man aged sixty-four years. This is a point on which I think a number of workers might give us their experience, and valuable information be elicited. The presence of fluid in the pleural cavities can be easily detected by a screen examination, as a shadow is cast in every case, generally corresponding in extent to the area of percussion dulness, and the upper level of the shadow is seen to alter with every movement of the patient's body unless the fluid is encysted. It is generally possible to determine the nature of the fluid without the aid of a needle, as the shadow cast by a purulent effusion is much more dense than that of a serous effusion, obscuring the shadow of the ribs, which can be seen through a serous effusion. It is also possible to say whether air is present in addition to fluid or not. In the former case the upper level of the shadow in the erect position is horizontal, while in the latter, under the same conditions, the shadow has the form of a concavity, the sides of which are prolonged upwards for a considerable distance.

I will finish by saying a few words about the technique of radiographing the lungs. I use a 10-inch coil, made for me by Gaiffe of Paris, so arranged that when necessary to go to the patient's house it can be worked by one 6-volt accumulator and the Charpentier Gaiffe interrupter, which will admit a variation of current from 2 to 10 ampères, and at the same time allow me to use a 230 volt current through a Wodal jet interrupter in my consulting room. In the former case the exposure necessary to give a good skiagram of an adult thorax varies from 2 to 3 minutes, whereas in the latter 30 to 60 seconds is ample to give a good definition, the tube being placed 20 to 24 inches from the plate, the anode being on a level with the third or fourth rib. In some cases I use a separate plate for each lung; in others I make one plate suffice. The back to plate method is used in every case. The advantages of this are numerous, and were set forth by Dr. David Lawson. The chief are that the patient is in a more comfortable position and less likely to cough than if lying on the chest, and in a large majority of cases the lesion in the apex is situated in the posterior portion of the lung, and therefore a clearer shadow is obtained if the plate is at the back. Sometimes I expose the plate while the patient holds his breath after a deep inspiration, cutting off the light as soon as the second inspiration is necessary, as I find the period of apnœa is about 15 to 20 seconds. This means 3 or 4 periods of exposure to bring up the requisite time. Stereoscopic views can be taken, and are very useful. Rapid plates, which will stand long development without fogging, are essential. I generally use Lumière and develop with pyro-ammonia, which I find gives better printing negatives, although, owing to the yellow colour, bright sunlight is required to finish the print in reasonable time—a difficulty not easy to overcome in our dark, dull winters. Consolidation, cavities, fibrosis can all be recognised by the different opacities and shadows, but where cavities are suspected it is important to take one skiagram, and then after the patient has coughed and expectorated to expose another plate. In this way the cavities, being emptied, will be seen, as light areas in an opacity; in the first skiagram the opacity would be more homogeneous. I am sure that those that are sufficiently interested in X-ray work to examine and photograph a number of cases will come to the conclusion that—

(1) In this method we have a valuable adjunct to the older methods at present in use.

(2) That the diagnosis of early cases is made more easy and more certain.

(3) That progress can be watched.

ART. XV.—*The Attitude of Our Profession towards the Educational Question in these Countries.*[a] By R. B. M'VITTIE, M.D.

HAVING been much struck by the extraordinary progress made by Denmark, Sweden, and Germany in the last few years, and finding upon investigation that it is mainly due to the control exercised over primary education by the medical profession, I have taken the liberty of bringing my views before the Academy, hoping that we may be aroused in these countries to assert ourselves more energetically in this matter, and do something to shake off the fetters of antiquated precedent which paralyses us, so that we may make the intelligence and physical energy with which our people are naturally gifted a more effective power in the world.

Now, in order that we may understand each other more clearly we must, first, come to some agreement as to what we mean by education; secondly, we will consider the creature to be educated; and finally we will see in what relationship these investigations stand to our method, and to those which experience indicates have been most successful elsewhere.

In the present day we are always hearing about education.

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[a] Read before the Section of State Medicine, in the Royal Academy of Medicine in Ireland, on Friday, February 12, 1904.

but it is surprising how few people you can find who would attempt to explain what they mean by it. Some would tell you that it meant going to school and college, some that it meant passing examinations and getting degrees, while others, taking the derivation of the word, would tell you that it was the drawing out the qualities that are latent in the individual.

Now, none of these explanations are quite satisfactory, for although the last is probably the nearest to the truth, yet it does not fully satisfy the requirements of modern times, inasmuch as we not only want to bring out the faculties of the individual, but also to develop him in such a manner that by the use of what he already possesses he may acquire more. Some people may say that it is impossible to develop in an individual a faculty that he does not already possess; but this is manifestly incorrect, for a person who is deaf and dumb cannot be said to possess the faculty of speech, yet by the use of the powers of sight and muscular sense he can, by a little ingenuity and training, be taught to speak very well indeed. It is therefore evident that by the use of two or more faculties we may acquire others, and as this capacity for acquisition implies development and energy, it would indicate what, to my mind, is education in the true sense.

The great aim and object of all education should be to enable us to give due value to all the factors in the various complex problems of daily life, so that we may arrive at a correct conclusion and be enabled to devise efficient means for dealing with the difficulties of the situation as they arise.

In the simple problem of the parallelogram of forces it is demonstrated that when any two forces acting at a given angle about a point are represented in direction and extent by two sides of a parallelogram the resultant of those two forces will be equal in direction and extent to the diagonal of that parallelogram. You will remember that if undue value be given to either of these forces, or the angle at which they operate is incorrect, the resultant must necessarily be incorrect also. And we think it will be conceded that in a similar manner, when taking a forecast of the various complex positions of daily life, our judgment can be found to prove itself correct only when our estimate of the importance of the various factors concerned has also been correct. To make more clear what I mean perhaps I may be allowed to take an illustration:—

If I ask you what I hold in my hand, you will say an apple, but if I strike it upon the desk you will say that it is not the sound you would expect an apple to give. If you smell it, it does not smell like an apple; if you grasp it, it seems heavier and harder than an apple. You will therefore come to the conclusion it is not an apple at all, and in this you will be correct. It is only a paper weight made to resemble an apple.

It will be plain, therefore, that we fell into error by giving undue value to the factors of colour and shape in this case; but when we call into play the corrective powers of the other nerve centres by which we appreciate the remaining factors of touch, weight, sound, and smell, in due proportion, we see that our first estimate is incorrect, and as the resultant of all these observations we conclude that this is not an apple at all, and in this we are right.

Matthew Arnold shows that he appreciates the necessity for this combination of different mental powers in the production of sound judgment when he says that Joubert, when writing on Voltaire and Rousseau, "has the faculty of judging with all the powers of his mind and soul at work together in due combination, and how rare is this faculty."

This faculty of testing or allotting to our various observations their due relationship is the underlying principle of geometrical science.

Geometrical science, by dealing with the relationship of proportions, enables us to arrive at equilibrium, and as equilibrium is the physical equivalent of the moral ideal of justice and equity it follows that a physical training which develops those faculties and senses which enable us to estimate this relationship of proportion must have a far-reaching influence upon our mental and moral natures.

Civilisation is the result of a progressive, selective appropriativeness, and progressive, selective appropriativeness can be brought about only by an appreciation of the relationship of proportions. Hence our civilisation is directly due, whether we recognise it or not, to our appreciation of the relationship of proportion; in other words, to the "fitness of things" physical, mental, and moral.

The locomotive steam engine is perhaps the best concrete example of modern progressive civilisation, and a moment's reflection will be sufficient to show that its efficiency depends upon the accuracy with which the proportions of the details are carried out. The size of the cranks must be proportionate to the length of the stroke of the piston. The capacity of the boiler must be proportionate to the steam which will be required; while, finally, no matter how powerful and well-constructed the engine itself may be, the solidity of the road must be proportionate to its weight, or it will sink in the ground and become perfectly useless.

Our principal aim, then, in education will be to give such uniform development to all the faculties, both physical and mental, as may enable us to assign due value to the various factors of the problems of daily life.

It is, in fact, a departure from this appreciation of the relationship of proportions which constitutes insanity, and, on the other hand, that community which orders the mechanical duties of its daily life with the greatest geometrical accuracy and its moral relationships with justice and equity will certainly hold a leading position amongst the nations of the earth.

If, then, we are agreed upon the fundamental principles which should control our educational aims we must next consider, as briefly as possible, the leading characteristics of the creature to be educated.

Man is a compound being, and hence his development must necessitate the development of his component parts. It may be impossible to attain to perfection, but, nevertheless, we must aim at it, and to insure the perfection of a compound we must begin by selecting perfect elements. A man who is morally and mentally as near perfection as possible cannot be said to be a perfect man if he is physically diseased, for although his moral and mental characteristics are undoubtedly much more useful and to be admired than his physical, yet the physical are necessary for the maintenance of the moral and mental, and the physical deterioration must inevitably be followed by dissolution, or at all events decline, in the moral and mental usefulness of the sufferer. Let us take the analogy of a fruit tree; its highest function is to bear fruit, but in order that it may do so it is necessary that its roots and leaves and branches be healthy, as otherwise it cannot continue to bear good fruit. It cannot be said to be a well-developed tree simply because it bears a large quantity of fruit for one or two years, and then fades and dies. In order that the tree may deserve the character of a perfect tree there must be a due proportion between all its component parts, which may result in the greatest possible amount of the best possible fruit. The roots, the branches and the leaves are not the object for which the fruit tree is cultivated, but they are necessary to it, and similarly the physical and mental qualities of man are not the highest objects of his existence, but are most useful to maintain and give effect to those moral qualities by which alone man may reasonably hope to glorify his Creator and benefit his fellowman.

Deuteronomy tells us "the blood is the life," and modern science has not been able to dispute this simple statement. We may therefore take it as conceded that the first essential for physical development is a sufficient quantity of healthy blood, and hence that the question of how we are most likely to procure healthy blood must be dealt with at the outset. I think it was Oliver Wendell Holmes who said that in order to be healthy we should go back a few hundred years and procure healthy ancestors. This would no doubt be excellent, but as it is impossible we must only accept things as they are and make the best we can of people as we find them. This part of the question therefore narrows itself down to the consideration of the circumstances which are most likely to assist us in maintaining our blood in a healthy condition or improving it, should it have undergone deterioration, and this will naturally suggest the investigation of the sources from which the blood is derived.

For all practical purposes and to avoid too many technicalities we may define the sources of blood-formation as threefold :—

1st. The digestion and assimilation of the food taken.

2nd. The respiratory process.

3rd. Nervous influence, which presides over all tissue-formation or change.

It is therefore necessary that the food be good, and that the digestive and assimilative process be effectively carried out; secondly, that the air breathed be sufficient in quantity and good in quality; and, thirdly, that the nervous influences in operation during the other two processes of digestion and respiration be such as are calculated not only not to hinder. but to further, the exceedingly delicate and intricate tissue changes which are necessary for the production of blood, efficient in quality and sufficient in quantity.

It will therefore be desirable when we seek the development of an individual to place him under such favourable circumstances that we may reasonably hope that all the processes above alluded to may be duly balanced and maintained. and that just as we saw in the example of the tree, that the leaves and branches and roots in due proportion exercised their influence in attaining the end in view, so it will be necessary that the digestive, respiratory and nervous processes should be maintained in a condition of integrity by the exercise of various accessory forces throughout the system, such as the glands, the skin and the muscles.

The physical and mental powers must be patiently and solidly built up, or they will not be able to sustain the mora equilibrium under the pressure of temptation or disease, and hence much that is noble and excellent in the culmination of this most imposing edifice collapses in chaotic ruin ere the finishing touches can be given to the masterpiece, and we find too often, far too often, the hoary head which should teach us wisdom a painful spectacle of despondent decrepitude or blank and incoherent dementia.

Let us now for a moment glance at the daily life of the average school child and see what steps we are taking to bring about the development of these component factors which are necessary for the maintenance and progress of our people.

We will take a child of 9 or 10 years who lives in a single room in a tenement house. His mother is still a young woman, who learned geography and grammar and kindred subjects at school, but never got a lesson in cooking in her life, has never heard anything of the comparative value of different kinds of foods, never was taught to scrub a floor, or make a jacket or a dress, and who if the table or chair was falling to pieces could not drive a nail straight to keep it together.

She has no idea of the importance of ventilation, and was never taught to hold her head up or to expand her chest. She is depressed and discouraged by the consciousness of her own inability to deal with the increasing desolation by which she is surrounded, and flies for refuge to the seductive tea-pot, which is constantly simmering by the smoky, dust-choked fire, and from which she derives no doubt a stimulant, but also a sure, though slow, poison. Some one will reply that we have nothing to do with the mother, that we cannot alter her now, and that I am wandering from the point. I think we could do a great deal for her, and that the machinery is at our hands to do it if we would only open our eyes to see it.

I have, however, only introduced the mother to show that there is nothing to be expected from her, and that if we are to do anything for the child it must be while he is in our own hands.

This poor child's breakfast will consist of a little white bread and butter and tea. Now, the growing tissues of the child require a very large supply of nitrogen and phosphates.

The white bread contains, probably, less than 2 per cent. of nitrogen and practically no phosphates, and the tea contains xanthine, which is rapidly converted into uric acid. Yet with no further provision the child has to start for school, where he will begin his work at 9 30 or 10. He is then in the schoolrooms for 2½ to 3 hours with a large number of other children (who, probably, like himself, are almost wholly innocent of soap and water), many of whom are centres of infection, either directly or indirectly. The air grows heavy and fœtid, and the child becomes listless and inattentive, and standing or sitting twists his body into whatever position will give his weary little muscles the most ease for the time being, and thus begins to establish incipient spinal curvature and other deformities. At 12 or 12 30 he will be allowed out to the playground for about half an hour, when he may eat any lunch he has brought with him and get some air and exercise.

He will then return to the schoolrooms for another 2 or 2½ hours to listen to or take part in the dreary recitation of lessons, most of which are wholly of an abstract nature, and are not and cannot be made the least interesting, and which will at the best only force the child through an examination without doing anything whatsoever to equip him for the battle of life.

Many of these children spend from 4½ to 5 hours every day in these unhealthy and crowded schoolrooms, and many of the teachers are there 6 hours or more. Is it to be wondered at if during the last few hours both teachers and children are irritable and longing to escape, and that the children not unfrequently look upon the teachers as their natural enemies, and seize every opportunity of resisting their authority, and finally that both teachers and children get home too jaded to eat their dinner, or if they do eat it they certainly have not the nerve energy to digest it ?

Now, every step in this daily history is not only unphysiological, but it is directly contrary to all physiology. We blame the Egyptians for expecting the children of Israel to make bricks without straw, and yet we expect children to build brains without either food or pure air. We burden and break down both teachers and children by making excessive demands upon their memories and their endurance, and we do not supply them with the means of strengthening either.

At certain periods, what are called examinations are held. Are they examinations ? Are the children's eyes tested ? Are their teeth looked at ? In some parts of America this is done every year. Is there any systematic effort to see that their weight is proportionate to their years and height ? Are the examiners capable of examining children ? Are their minds really occupied with the children and the teachers, or are they crowded out by long lists of questions and answers, marks and percentages, and the complicated regulations and instructions of their Boards and Committees, who know nothing about the individuals to be dealt with ? How many examiners could tell you whether a child's eyes were dull and leaden or unduly bright and nervous, or his hair well-grown or feeble and disposed to fall out, or his teeth well formed or decaying, or his ears and jaw properly developed, and his head symmetrical ? The examiner has not been taught to observe such things or to draw any conclusion from them if he did observe them. He will tell you he has no time, his Board will be down upon him if he does not make his district show as good a percentage as other districts, and if the child breaks down as soon as it leaves school he cannot be held responsible, and he has no time for anything else. Nobody has any time; everybody is overworked, and feels that much of the work is worse than useless.

The demon of what are called examinations—that is, question and answer, percentages and result fees—dominates every place and every hour. The child is nothing, the examination is everything.

Is it any wonder that all the civilised nations of the earth are laughing at us? Just look at our coinage; our weights and measures to begin with. How many children are annually driven mad or epileptic by our compound addition, compound multiplication, compound subtraction, compound division, and all the other compounds and complications that must arise from our 4 farthings in a penny, 12 pence in a shilling, 20 shillings in £1; or 12 inches 1 foot, &c.

How many years of worse than useless toil have been spent over all this which has been long ago wiped out in other countries by the decimal system?

The educational value of an idea is its capacity for association and suggestion, and hence in the metric system each unit as it occupies a definite relationship to the whole of the rest of the system is of considerable value in this respect, while in our conglomeration of incoherent delirium each isolated fact stands out on independent principles and bears no relationship to anything else in the universe, unless indeed it be one of an adverse and injurious nature to the unfortunate child who fails to retain it in his overstrained and exhausted memory. I am aware that the British Association some years ago passed a resolution against the decimal system, but I am also aware that the British Association believed in De Rougemont.

Can it be wondered at that we frequently find ourselves sitting upon an Austrian chair, eating bread made of Californian flour, butter from Denmark, cheese from Holland; that the lamp chimney is from Saxony, that we write upon German paper, that we cut the grass with an American lawn-mower, that the tram rails in our streets are made in Belgium? While other countries are manufacturing everything for our daily use, we are, by our present school system, manufacturing anæmia, tuberculosis, epilepsy, and insanity.

If, however, we assume that we have a sufficient stream of healthy blood, and that we are provided with all the physical accessories of digestion, respiration, &c., necessary for its maintenance, the next physical consideration which must occupy our attention will be the development of the special organ by which our moral and mental faculties are capable of placing themselves in communion with our material surroundings. In other words we must now consider for a few moments the development of the centres of the brain.

There is sufficient evidence to show that certain parts of the brain are specially endowed with certain special functions. and also that sufficiently defined localities in the brain preside over or are roused into activity by certain definite movements of the muscular system.

The brain may, therefore, be compared to a workshop in which a number of different processes are carried on in different departments, the whole tending towards the completeness of the finished article, in the manner suggested by our examination of the apple. And we see that when injury or disease affects certain portions of the brain the corrective power which that particular portion of the brain would possess becomes lost to the individual, and if it be one of the portions essential to mental operations, his conclusions will be ill-balanced and incorrect.

Havelock Ellis, who is one of the greatest authorities on criminology, has arrived at the conclusion that the two conditions most frequently associated with criminality are an unsymmetrical brain and loss of self-control, and it is probable that these conditions are more or less associated and dependent upon one another, for even in those cases where lack of symmetry is not discernible externally, yet there may be unsymmetrical development from internal disturbance of nutrition or association.

It is therefore evident that if we would aim at having a healthy mind we must begin by having a healthy body, and that upon this as foundation we may reasonably hope that we ought to be able under suitable circumstances to build up such a healthy condition of brain development as may lay the physical basis for a strong and sound mind. For it should be remembered that physical observations must of necessity precede and lay the foundation for mental observations, and that upon the soundness of the physical observations much of the correctness of subsequent mental deductions will depend.

In a similar way if the mental estimates of right and wrong become correctly established the moral influence on the individual may reasonably be expected to be more or less correct and permanent, and hence if we have satisfactorily accomplished our aims physically or mentally we have at all events done much to start the individual on the road towards moral rectitude, and so have as nearly as possible brought about that happy condition which we might consider to be described by the expression an educated or developed man.

Read Huxley's definition of an educated man: "That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that as a mechanism it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who is no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of Nature or of Art, to hate all vileness, and to respect others as himself."

If; then, the foregoing considerations have assisted us in arriving at an understanding of what we mean by the word education, we must direct a few moments' attention to the qualifications of those who have assumed the responsibilities in these countries, and we may briefly divide them into three groups:—

1st. University dons with caps, gowns, and spectacles, a considerable knowledge of the classics, and, perhaps, of some abstract mathematics.

2nd. Ecclesiastics who are probably classical and literary, and whose necessarily isolated position can scarcely fail to result in narrow-mindedness, and who, although excellently intentioned from a moral point of view, are absolutely oblivious to the physical laws which underlie all practical morality.

3rd. The schoolmaster, who as he at present exists does not seem to grasp the true view either of education or of the creature to be educated; he has not really been taught to teach, he does not regard it as essential that knowledge to bear fruit in wisdom must first become part and parcel of the individual who possesses it; and, second, that that individual must be able to make himself the medium of so associating his knowledge with the circumstances with which he is contending as to bring harmony out of discord and to establish effective relationship where hitherto antagonism alone has existed.

These people are called "educationalists!" Shakespeare has well said: "What is in a name?" and surely there is nothing in this name, for every one of these groups is as a body absolutely ignorant of even the rudiments of physiology or biology, and it is an everyday experience to see boys hurried from a stodgy dinner into the football field, or to find a child who suffers from astigmatic headache bullied for being stupid or inattentive, and condemned to write several hundred lines of some classical trash, with the inevitable consequence that the astigmatism is increased, the brain exhausted, and an unutterable detestation of all literary work permanently fixed in the child's mind.

It is surely, therefore, sufficiently manifest that the only training by which we many hope to bring about a healthy control of the educational question in the true sense is that of our own profession, and the rapid strides made in Sweden, Denmark, and Germany in latter years has been almost entirely brought about by the medical profession taking so decided an attitude that it has been recognised by the Governments of these countries; and if we would rescue our people from their present painfully backward position it can only be done by our following at home this noble example set by our professional brethren abroad.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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Supplement to the Thirty-seventh Report of the Registrar-General of Marriages, Births, and Deaths, in Ireland, containing Decennial Summaries of the Returns of Marriages, Births, Deaths, and Causes of Death in Ireland for the Years 1891–1900. Presented to both Houses of Parliament by Command of His Majesty. Dublin: Cahill & Co. Folio. 1904. Pp. 138.

THE registration of births and deaths was instituted in Ireland in 1864. The registration of marriages other than those celebrated by the Roman Catholic clergy was provided for under the Act 7 & 8 Vic., cap. 81, which came into force on April 1, 1845. Roman Catholic marriages were not registered until the year 1864, when the Act 26 & 27 Vic., cap. 90, for the registration of those marriages came into operation.

These facts are worth remembering when we study the Registrar-General's interesting statistics relating to the marriages, births, and deaths registered in Ireland during the ten years ended on December 31, 1900—during the last decade, in other words, of the nineteenth century.

The estimated population of Ireland diminished to the extent of 249,458, or at the rate of 5.29 per cent., between the middle of 1890 and the middle of 1900. The actual decrease in the population from the Census date in 1891 (April 5) to that in 1901 (March 31) was 245,975.

During the ten years, 1891–1900, the number of marriages registered was 221,608, or at the average annual rate of 4.84 per 1,000 of the mean population, compared with 213,095 during the previous decade. The increase was equal to 4.0 per cent. in a decreasing population. We find, however, that the greatest annual number registered (23,120) was in 1895, whereas the smallest number (21,330) was in 1900.

During the last forty years there has been a well-marked decrease in early marriages in Ireland. In 1864, 3.77 per cent. of the males married were under full age; in 1880, the proportion was 2.64 per cent.; in 1890, it was 2.02 per cent.; and in 1900 it fell to 1.56 per cent. Among females the decrease of early marriages is more marked—in 1864 the proportion of minors was 18.16 per cent. of all the women married; in 1880, it was only 11.79 per cent., in 1890 it fell to 8.75 per cent., and in 1900 it was no higher than 6.84.

It is satisfactory to note a marked spread of elementary education in this country as tested by the marriage registers and marriage certificates. In 1864, 61.4 per cent. of the men and 49.7 per cent. of the women who were married, signed in writing. In 1871, the proportions were—men 62.5 per cent., women 54.8 per cent.; in 1880, men 73.8 per cent., women 69.1; in 1890, men 79.6, women 79.1; in 1900, men 86.8, women 89.3.

The number of births registered in Ireland during the decade 1891–1900 was 1,055,020, compared with 1,150,463 births registered in the previous ten years—a decrease of 8.3 per cent. The birth-rate was 23.0 per 1,000 of the mean population, compared with 23.3 in the preceding decade. Of all the births registered, 1,027,126, or 97.4 per cent., were legitimate; 27,894, or 2.6 per cent., were illegitimate. In the previous decade the corresponding percentage was 2.7. The proportion of illegitimate births to all the births registered was greatest in Ulster, where it reached 3.7 per cent., and least in Connaught, where the percentage was only 0.6. A Table (No. VIII.) shows that illegitimate births were proportionately more numerous in some of the districts comprising manufacturing towns.

From the foregoing statements it will be observed that, whereas the legitimate births have fallen 8.2 per cent. in the ten years ended with 1900, compared with the previous decade, the number of marriages solemnised in the ten years ended with 1900 was 4.0 per cent. in excess of the marriages in the ten years ended with 1890.

The deaths registered in Ireland during the decade 1891–1900 were 836,035, compared with 883,156 in the previous ten years. The average annual death-rate per 1,000 of the population was 18.25 in the ten years 1891–1900, compared with 17.9 in the ten years 1881–1890. The death-rate varied considerably in different years of the decade—thus, in 1900 it was 19.6, whereas in 1896 it was only 16.7 per 1,000. The average percentage of the annual number of deaths registered in the first quarter was 30.6, in the second quarter it was 25.8, in the third 20.4, and in the fourth 23.2. As one might expect, the highest death-rate—22.3 per 1,000 of the population—was in the first quarter, when the cold weather and the continued privations of the winter months have naturally the greatest affect on the health of the people. The death-rates in the other quarters of the year were—second, 18.9; third, 14.9; and fourth, 16.9.

As regards the distribution of deaths in the Provinces of Ireland, we find that the average annual rates per 1,000 living were as follows:—Connaught 14.6, Munster 17.2, Ulster 19.0, and Leinster 20.4—all Ireland having a death-rate of 18.2. The county death-rates ranged from a minimum of 14.1 in Mayo to a maximum of 24.9 in Dublin (the county and county borough combined). The counties containing large towns occupy unfavourable positions on the list. This is especially noticeable when Mayo and Dublin, which present extremes, are contrasted with one another. The rate of mortality in Mayo falls short of that in Dublin by 43 per cent. Taking "Civic Unions" and "Rural Unions," the average annual death-rate for the "Civic" group is 219.2 per 10,000 inhabitants, whereas in the "Rural" group it is but 164.6, or 54.6 per 10,000 less. In round numbers, therefore, the deaths among a million of inhabitants of an urban population would exceed those in a rural population of the same amount (10,000 inhabitants) by over 5,000 per annum. If the rural population of Ireland died at the same rate as the urban there would be an average increase of about 17,000 deaths in Ireland every year.

Under the heading "Causes of Death" very instructive information is forthcoming. Take for example "Influenza." In the decade 1871–1880 only 972 deaths were assigned to this disease; in the decade 1881–1890, 2,096 deaths were returned as due to this cause; but in the decade ending with the year 1900, the deaths attributed to influenza amounted to 20,805.

Again, the deaths from Smallpox registered in Ireland during the ten years 1871–1880 numbered 7,550. In the following ten years there were only 241 deaths from this disease, while in the decennium ending with 1900 there were only 235 deaths (132 of males and 103 of females), or an average of but 5 deaths per annum in every million of the population. Of these 235 deaths, 69 were of persons stated to have been vaccinated, 97 were of unvaccinated persons, and as regards the remaining 69 victims the condition as to vaccination was not stated. There were only 20 deaths from smallpox in rural unions. Of the remaining 215 deaths, 199 took place in Leinster (including 135 in the North Dublin Union and 60 in the South Dublin Union), and 15 in Ulster, including 10 in Newry Union and 3 in Belfast Union. There were only two fatal cases of the disease in Connaught; not one death from smallpox was registered in Munster. The only years in which deaths from the disease were at all numerous were 1894 (72 deaths) and 1895 (146 deaths), and the only place where smallpox prevailed to any considerable extent was Dublin. In this connection, it is interesting to learn from the records of vaccination collected and published in the Registrar-General's Quarterly Returns of the Vital Statistics of the country that 911,725 successful primary vaccinations were performed in Ireland during the ten years 1891–1900. Also, in the same period, the deaths of 63,554 unvaccinated children under 3 months old were registered. The number of births registered during the ten years was, as has been already stated, 1,055,020. These figures leave the wide margin of 79,741 human beings unprotected in infancy by vaccination, ready to contract and to fall victims to a loathsome malady.

Passing by the facts relating to Measles and Scarlatina, we come to the several forms of continued fever—Typhus, Enteric (Typhoid) and "Simple Continued Fever." The annual rates represented by the total mortality from these causes in each succeeding decade, beginning with the ten years 1871–1880, were 56.88, 36.57, and 25.92 per 100,000 of the population. From these figures the gratifying deduction is that, allowing for the decrease in the population, the deaths from continued fevers in Ireland during the decade 1891–1900 show a decline of no less than 54 per cent. when compared with the mortality in the previous ten years.

An analysis of the figures shows that the diminished mortality from fever concerns typhus and ill-defined fever alone. For both absolutely and in proportion to the population the registered mortality from enteric fever was greater in the ten years 1891–1900 than in the preceding decennium, the number of deaths being 8,692, equal to an annual rate of 1.9 per 10,000 of the mean population, against 7,995 deaths and an average rate of 1.6 per 10,000 for the ten years 1881–1890. This is disconcerting, particularly when we learn that deaths from enteric fever were recorded in every union in Ireland with the exception of Castletown, in the County of Cork.

An investigation of the geographical distribution of the fatal cases of this fever shows that 4,142 out of the total of 8,692 deaths registered occurred in Ulster—this number representing an average yearly death-rate of 2.6 per 10,000 of the mean population of that province. The corresponding figures for the other provinces were—Leinster, 2,601 deaths, or 2.2 per 10,000; Munster, 1,369, or 1.2 per 10,000; Connaught, 580, or 0.9 per 10,000. With regard to age-distribution, it is sad to find that the highest rates are those for the age-periods 20 years and under 25 years, and 15 years and under 20 years, the respective rates being 33.91 and 25.65 deaths per 100,000 living at these age-periods. The deaths from enteric fever in the three unions of North and South Dublin and Belfast combined constitute 48 per cent. of the deaths from the disease in the whole of the country. A coloured diagram shows that whereas enteric fever has rapidly diminished in England and Scotland in the 30 years 1871–1900, no such happy result has taken place in Ireland. In 1898, in fact, a serious epidemic of the disease is shown in the death-curve.

Turning to Typhus, the outlook is more promising. It would, indeed, seem that this deadly disease is dying out in this country, which has always been looked upon, though without good reason, as its home. In the ten years 1891–1900 only 1,940 deaths from typhus were registered in all Ireland, compared with 5,457 deaths in the preceding decade and

7,495 in that ending with 1880. The mortality, in other words, fell from an average yearly rate of 14.17 deaths per 100,000 of the mean population in the ten years 1871–1880 to 11.05 in the ten years 1881–1890, and to 4.16 in the ten years 1891–1900. The relative mortality, therefore, in the last-named period did not amount to one-third of that for the ten years 1871–1880. In the North and South Dublin Unions the deaths from typhus in the last decade, 1891–1900, were only 80—or an average of only 8 per annum. The age-periods at which typhus proved most fatal, both numerically and proportionally, are 35 and under 45 years, and 45 and under 55 years.

There is evidence that Pneumonia, or—as it should with more propriety be called—Pneumonic Fever, is rapidly taking the place formerly occupied by Typhus Fever in the "Bills of Mortality."

It is a matter for regret that the time had not come within the ten years under review to transfer "Pneumonia" from the class of "Local Diseases," sub-class "Diseases of the Respiratory System," to the class of "Specific Febrile or Zymotic Diseases," to which it undoubtedly belongs. We might just as well classify enteric fever under the headings "Local Diseases—Diseases of the Digestive System." The two diseases, enteric fever and pneumonic fever, are precisely analogous—each is caused by a specific micro-organism, each shows a localisation while producing constitutional signs and symptoms, each runs a cyclical course, each is liable to become complicated with secondary affections, each is infective and—as the phrase goes—"taking." The Registrar-General for Ireland, however, must not be held accountable for retaining pneumonia among the "Local Diseases" in his most valuable Decennial Report. We know, by experience, that while he is reluctant to initiate changes in matters connected with medical nomenclature and classification of disease, he is most willing to adopt any suggestions touching these or kindred subjects which the Medical Profession may authoritatively make to him. As a matter of fact, he, in common with the Registrars-General for England and Scotland, has agreed in deference to medical opinion to classify pneumonia in future with the acute infections in the periodical

Statistical Reports on the Health of the People issued by the Registrar-General's Office.

Facing page 41 we find a highly instructive diagram showing the rate per 10,000 of the population represented by the deaths from pneumonia registered in Ireland, England and Scotland, respectively, during each of the thirty years, 1871–1900. In all three divisions of the United Kingdom the mortality from pneumonia, we are sorry to say, discovers a marked tendency to increase—in none of the Three Kingdoms more than in Ireland. Deaths from pneumonia in this country, which numbered 19,718 in the decade 1871–1880, increased to 27,576 in the decade 1881–1890, and rose to 35,080 in the decade 1891–1900—and this, be it remembered, in the face of a steadily, even rapidly, diminishing population. Indeed, the figures just given are equal to the average annual rates of 3.7, 5.6, and 7.7 per 10,000 of the mean population for the respective decades. In 1900, the last year of the decade more especially under review, the death-rate from pneumonia in Ireland rose to 8.6 per 10,000 of the population—this figure representing the high-tide of mortality from the fever in question.

Taking the absolute numbers, there was but very slight variation in the mortality from Diphtheria in Ireland during the last three decades. The number of deaths in the years 1871–1880, inclusive, was 3,403; in the following ten years it was 3,465, and for the last decade (1891–1900) 3,440. In relation to population, however, the mortality from diphtheria shows a decided tendency to increase, the average annual rate for the first period being 64, for the second 70, and for the third 75 per million of the population. As to the Provinces, Ulster heads the list with an average annual death-rate from diphtheria of 1.2 per 10,000 of the mean population, the corresponding figures for the remaining provinces being 0.7 in Leinster, 0.4 in Munster, and 0.3 in Connaught. The average rate for the civic unions (1.1 per 10,000 of the population) was nearly double that for the rural unions (0.6). Belfast (1.8) and Dublin South (1.2) are among the highest death-rates. Of the 3,440 deaths from diphtheria, 1,781, or more than 50 per cent. of the total, were of children under 5 years of age. An additional 965 deaths, or 28 per cent. of the total, were of children aged from 5 to 10 years. There is good reason to hope that this awful sacrifice of child-life will be greatly lessened in the future, thanks to the triumphant success which attends the antitoxin treatment of diphtheria.

The increase during recent years in the mortality recorded in Ireland as having been caused by Influenza is truly remarkable. In the decade 1871–1880, only 972 deaths were registered as due to this disease—a number which represents an average annual mortality of only 0.2 per 10,000 of the population. In the whole period from 1864, when death registration began in Ireland, up to 1890 the average number of deaths assigned to influenza was only 103 per annum.

During those years there was not any epidemic of influenza in Ireland, but in 1890 an epidemic suddenly arose, causing 1,712 deaths, or 3.6 in every 10,000 of the estimated population. In the decade 1891–1900, the recorded deaths from influenza numbered 20,805 (10,067 males and 10,738 females)—a large figure, which represents an average annual death-rate of 4.5 per 10,000. No age-period afforded protection from this deadly malady. No union in Ireland can claim that its registration records were free from the history of an attack of the disease. In the civic unions of the whole of Ireland influenza slew at the yearly rate of 3.8 in every 10,000 of the population during the decade 1891–1900. Curiously enough, the rate in the rural unions was much higher, being 4.9 per 10,000. In the ten years, 1892 showed a death-rate per 10,000 of 8.1 ; in 1900 the high figure of 10.5 was reached.

Deaths from "Diarrhœal Diseases" were tabulated under the headings—(*a*) simple cholera, and (*b*) diarrhœa and dysentery. We are sorry that no allusion is made to the seasonal prevalence of these maladies. In future reports also it will be possible to discuss the relation between the temperature of the soil and diarrhœal diseases, for we observe that in the last Quarterly Returns of the Registrar-General columns have been set apart for readings of the earth-thermometers placed at one foot and four feet respectively below the surface of the ground.

Under the now obsolete heading of "Constitutional Diseases" there is some very unpleasant reading. The section deals with Cancer and Tuberculosis. The total number of deaths referred to cancer (malignant disease) in the decade ended with 1900 was 24,435 (11,062 males and 13,373 females). In the preceding decade (1881–1890) the deaths from cancer in Ireland numbered 20,036 (8,964 males and 11,072 females); in the decade ended with 1880, the recorded cancer deaths were 17,790 (7,789 males and 10,001 females). These unsatisfactory figures represent death-rates per 10,000 of the mean population of 3.4 in the years 1871–1880, 4.1 in 1881–1890, and 5.3 in 1891–1900.

As regards age, the abstracts show that in the ten years ended with 1900 cancer slew only 294 persons (156 males and 138 females) under 25 years of age. This number equals only 1.2 per cent. of all the deaths from malignant disease. It will be observed that the incidence of fatal malignant disease is greater on males than on females under 25 years of age, whereas the reverse holds good at other age-periods. The highest county death-rates from "cancer" are those for Armagh (8.7 per 10,000) and for Dublin County and County Borough (7.6 per 10,000). Londonderry ranks third (7.4). County Down, with part of the Belfast County Borough, comes next (6.5), and is followed by County Antrim, with the remainder of Belfast County Borough (6.2).

The formidable increase in the fatality caused by malignant disease may be explained in some measure by more accurate diagnosis. It would also seem as if the saving of human life by modern methods of sanitation actually resulted in a larger supply of victims to malignant disease. It is a melancholy fact that, with the exception of 1895, the several years included in the last decade (1891–1900), show a gradual rise in the cancer mortality to 60.8 per 100,000 of the estimated population—the rate for the closing year of the series, 1900.

In the classification followed during the decade 1891–1900, deaths from Tuberculosis were distributed under four heads—namely, "phthisis," "tubercular meningitis" ("acute hydrocephalus"), "tabes mesenterica," and "other forms of tuberculosis."

During the 30 years ended with 1900, the deaths from tuberculosis in Ireland reached the appalling total of 396,236, including 304,224 from phthisis (pulmonary consumption); 30,359 from tubercular meningitis; 34,101 from tabes mesenterica, and 27,552 from other forms of tuberculosis. The above figures represent an average annual death-rate per 10,000 from tuberculosis in general of 26.0 in 1871–1880, 26.7 in 1881–1890, and 27.7 in 1891–1900; from pulmonary tuberculosis of 19.5 in 1871–1880, 20.9 in 1881–1890, and 21.3 in 1891–1900. It will be observed, therefore, that the death-rate from tuberculosis has been rising steadily in this country—" a fact," writes the Registrar-General, " which goes to show that the sanitary and other measures which have been undertaken for the improvement of the public health have not as yet arrested the ravages of this formidable disease."

This very instructive and able decennial Report concludes with sections on Ages, Emigration, Prices of Provisions and Pauperism, and the Weather. It is startling to learn that, in the ten years under review (1891–1900), the deaths of infants under one year old numbered 109,512, being at the rate of 104 per 1,000 births registered. What a sacrifice of human life is here! Amongst children under 5 years of age there occurred 173,994 deaths—a mortality equal to an average annual rate of 38.1 in every 1,000 of the living at that age. Of these 173,994 children, 93,403 were boys and 80,591 were girls. The death-rate among boys was 40.3 per 1,000 living, that among girls was 35.9 per 1,000.

In closing his Decennial Report the Registrar-General gracefully expresses his obligations to Dr. Ninian M. Falkiner, F.R.C.P.I., Medical Superintendent of Statistics in his Department, for the valuable aid he gave in the preparation of the Report, especially with respect to that portion of it which deals with the Statistics of Diseases and Causes of Death.

J. W. M.

An Index of Symptoms as a Clue to Diagnosis. By RALPH WINNINGTON LEFTWICH, M.D.; Late Assistant Physician to the East London Children's Hospital. *Nihil humani a me alienum puto.* Third Edition. 8vo. Pp. 399. London: Smith, Elder & Co. 1904.

As this reference manual has now reached a third edition, the professional public have evidently decided upon its merits in a way which the hyper-critical reviewer will find it difficult to modify, even if he were to use all his available efforts. The second edition has been re-written, and, of course, enlarged; and the compiler said in his preface that, "apart from the domain of the specialist, it is believed that almost every known symptom has been embodied here in one form or another." And the opening sentence of this third issue tells us that "the present edition contains about fifty new symptoms, and the lists of diseases have been made still more complete." Such facts furnish a solid foundation for the writer's estimate of the functions of the volume, which he thus expresses—"To the general practitioner it is a prompt book; to the physician a reminder of things surgical; to the surgeon it recalls forgotten medicine; while to the specialist it revives his knowledge of things outside his own speciality." But the fact that the volume has proved pre-eminently useful even to a consultant, in his own domain, is indicated in the sentence which follows—"A well-known physician, whom I found studying its columns, told me he was getting up a clinical lecture!" In our own student days one of our "Professors" in his opening lecture always advised his hearers to possess themselves, when starting on the race for professional success on the completion of their curriculum and examinations, of three volumes at least; they might or might not afterwards expand the collection, according to taste and collateral circumstances. But there were three books which were absolutely indispensable: (1) The Bible; (2) Professor ——'s Treatise on ——; (3) A good Book on Cookery. Then he threw a rose-coloured beam of lateral illumination on this counsel by informing his admiring audience that he had, when on vacation tour, paid a friendly visit to each of the two authors who had produced the text-books on his own special subject, which were then most extensively used throughout the British Islands. (Those text-books were both junior to his own treatise.) Each of the two authors was found to be utilising his vacation in compiling the contents of his future edition. Accordingly, there were several books and papers open before each on his study table; but the one which was nearest to his left elbow was the treatise of our esteemed lecturer! When the name of the latter was announced the writer rose in some little confusion; and, after offering a somewhat constrained welcome, turned round and closed the treatise of his visitor, with some trifling explanatory remark which contained the minimum of compliment. We now live in better times, and Dr. Leftwich's lines have fallen in more pleasant places. The consultants who utilise his valuable book of reference do not hesitate to confess the practice. Perhaps one of the reasons is that they steal less from it than they would have stolen in the case of our esteemed teacher's volume.

NOTHNAGEL'S PRACTICE OF MEDICINE.

Tuberculosis and Acute Miliary Tuberculosis. By PROFESSOR DR. G. CORNET, of Berlin. Edited, with additions, by WALTER B. JAMES, M.D.; Professor of the Practice of Medicine in the College of Physicians and Surgeons (Columbia University), New York.

Diseases of the Intestines and Peritoneum. By PROFESSOR DR. HERMANN NOTHNAGEL, Professor of Special Pathology and Therapy, University of Vienna. Edited, with additions, by HUMPHREY D. ROLLESTON, M.D., F.R.C.P.; Physician to St. George's Hospital, London. Authorised translation from the German. Under the Editorial Supervision of ALFRED STENGEL, M.D.; Professor of Clinical Medicine in the University of Pennsylvania.

Philadelphia, New York, London: W. B. Saunders & Co. 1904. Pp. 806 and 1032.

THESE portly tomes appeared almost simultaneously in the spring of the present year. They are the seventh and eighth volumes of the American-English Edition of Nothnagel's monumental "Encyclopædia of Practice of Medicine."

Professor Cornet's masterly treatise on Tuberculosis appears, as Dr. James says in his brief preface, at a time when the subject has a peculiar claim on the attention of mankind. In almost every civilised community societies for the prevention of tuberculosis are being organised, and these are composed not only of physicians, but of laymen; while Governments themselves are taking an active part in the movement, and special laboratories are being founded for the study of the diseases—laboratories maintained by both private and public munificence.

The work opens with a startling—even sensational—statement as to the significance of tuberculosis. Analysing the mortality records for Germany during 1894, Cornet finds that diphtheria and croup, whooping-cough, scarlet fever, measles, and typhoid fever all together were responsible for 116,705 deaths in that year. Tuberculosis alone caused 123,904 deaths. In Prussia, the average annual number of deaths from tuberculosis in the years 1876 to 1891 among the class of bread-winners (aged from fifteen to seventy years) was 71,895, or a third of the entire number of deaths. From these figures and the facts connected with the long duration of pulmonary consumption—loss of earnings, cost of medical attendance and medicines, of food and care, of burials, &c., Cornet estimates the yearly cost of tuberculosis to the Prussian State at 86 million marks—that is, £4,300,000 sterling! This sum would represent an annual tax of three marks (three shillings) per head of the population of Prussia.

The monograph on tuberculosis occupies 607 pages of the volume. It is followed by a special description of acute general miliary tuberculosis, which runs to 58 pages, and by a very full bibliography and detailed index.

The first portion of the work is divided into two parts. Part I. is devoted to Ætiology. It consists of seven chapters, the subject-matter of which is full of interest. In Chapter I. a brief historical survey, ending with Koch's discovery of the tubercle bacillus is given. The tubercle bacillus is fully described in Chapter II., which includes an account of the chemistry of the organism by E. R. Baldwin, M.D. The other topics discussed under the heading ætiology are—histology of the tubercle (Chapter III.), modes of invasion of the tubercle bacillus (Chapter IV.), infection (Chapter V.), heredity (Chapter VI.), and predisposition (Chapter VII.).

As to infection, Professor Cornet concludes (page 87) that "on the part of tuberculous animals dissemination of tubercle bacilli by means of urine and fæces is practically ruled out by the rapid process of putrefaction. Somewhat more importance, at least for certain cases, attaches to the infectious nasal mucus, and even more to the infected flesh and milk, which (*pace* Koch) may convey the disease in the shape of food. On the part of the tuberculous human beings, fæces, urine, and pus play a relatively small *rôle*, partly on account of their insignificant "content" of bacilli, partly on account of early putrefaction. The greatest importance belongs to the sputum, not, however, when moist, but when dried up and given the opportunity of dispersion.

Chapter IV., on the "Modes of Invasion of the Tubercle Bacillus," is a splendid monograph on the subject. It should be carefully studied by all who desire to control or stay the ravages of tuberculosis. Its breadth and scope may be gathered from the fact that it occupies 144 pages of the volume.

The author states that the infection of the lung is the most important chapter in the study of tuberculosis; indeed, one of the most important in the entire pathology of the human body. He points out that there were a number of circumstances which seemed to throw doubt upon the identity of tuberculosis with caseous pneumonia—*i.e.*, consumption—and which appeared to assign to it a secondary position: the *rôle* of a parasite in a previously diseased tissue. But "for the vast majority of the cases of phthisis the lung and its associated bronchial glands are either the sole focus of disease, as evidenced by the cicatrices so frequently found at autopsy, or are easily recognisable as the primary focus when compared with the more recent and younger manifestations in other organs. Pulmonary tuberculosis is generally, therefore, a primary disease, from which it follows that it arises through infection from without, the only possible carrier of the infection being the air of inspiration" (page 179).

At first sight it may seem paradoxical that the upper air-passages—the nose, pharynx, and larynx—are, as a rule, diseased only secondarily, though they are the parts which are chiefly exposed to infection from the deposition of dust, while the lungs, which are further removed, and should *à priori* be less susceptible to invasion, are the favourite seat of primary disease. But the conditions governing the inhalation of dust afford a very simple explanation for this apparent difficulty. Dust particles are quickly eliminated from the upper air-passages by the ciliary epithelium and the current of mucus. Occasionally, instead of going on to development within the alveoli, the bacilli find their way through the mucous membrane and are carried by the lymph-stream to the bronchial glands, which drain the lung. This manner of transplantation of the bacilli occurs to a far greater extent in children than in adults, owing to the facts that in early life the mucous membranes are less impassible, and also that the lymph-channels are proportionally of greater calibre. For these reasons it is more frequent in children than in adults to find tuberculous foci in the bronchial glands, while the lungs—the portals of invasion—remain intact.

The countless ways in which tuberculous infection may take place are fully illustrated in this chapter, which will be studied with advantage by all who are interested in the subject—and who is not? In a brief section (page 240) on the "Antiquity of the Theory of Infection," the author shows that the belief in the contagiousness of consumption is not a creation of modern science, but is as old as history. Among many other ancient authorities he mentions Aristotle and Isocrates—*λέγοντες ὥς πλεῖστοι τῶν θεραπευσάντων ταυτὴν τὴν νόσον αὐτοὶ προσδιεφθάρησαν.* We have printed this quotation as it should read, for as it stands in the volume before us it contains no fewer than four misprints.

Chapter VI., on "Heredity," will surprise many a reader. The author points out that the fact that children of tuberculous parents frequently become tuberculous has led many authorities to ascribe to heredity a dominating influence in the ætiology of tuberculosis. Some of them—Baumgarten being the chief exponent of the theory—believe that such children are born with bacilli, whereas the majority merely assume that a certain predisposition is transmitted.

As to the first, the transmission of the bacillus must be differentiated into a germinative infection—that is, an infection of the sperma or ovum during copulation—and an intra-uterine or placental infection. Cornet's findings on this point are:—

1. The assumption of a seminal transmission of the tubercle bacillus (a hereditary transmission from the paternal side) lacks all foundation.

2. The placental transmission is, however, undoubtedly possible, but extremely rare, and dependent on special conditions, such as advanced uterine tuberculosis with placental hæmorrhages (page 317).

As to the second, "one is surprised, on careful, critical examination to find on how few exact facts the doctrine of heredity in tuberculosis is based" (page 324). The severest criticism of a medical work which we have ever read follows this sentence. Dr. Cornet tells us that in a work which is frequently quoted as the main support of the doctrine of heredity, the author "has decorated 112 pages with about 100 gross errors of fact and contradictions." "The entire dissertation teems with mistakes." "I know of no more faulty and less scientific work in all medical literature." For obvious reasons we suppress the name of the author who is so severely handled by Professor Cornet.

Chapter VII. discusses the question of "Predisposition"—a term which, in Cornet's opinion, is frequently equivalent to exposure to infection. He quotes with approval G. Sée's aphorism:—"*La prédisposition est un mot pour masquer notre ignorance.*" He does not deny that there are a number of factors which may increase the susceptibility of an individual to a considerable degree, and which have a very decided influence on the course of the disease when an infection has taken place. "Predisposition may be understood as determined either by the body-fluids (chemical or humoral) or by the vital energy of the cell (cellular); but since the one is dependent on the other, no sharp differentiation is possible. Furthermore, predisposition may be general or restricted to certain organs. Lastly, it may be due entirely to mechanical conditions"—such are Cornet's views, and we need not quarrel with them.

Part II. is devoted to Pulmonary Tuberculosis. In eight chapters are discussed respectively the pathological anatomy of this fell disease, its symptoms, courses, termination and types, diagnosis, complications, prognosis, prophylaxis, and treatment.

The philosophic spirit in which the last named great subject is handled may be gathered from the aphorism:—"No single element in the cure—neither air, nor food, nor hydrotherapy, nor medicine—affords any guarantee of success; it is only the satisfaction of all the physiological and hygienic demands of the organism, from the greatest to the least significant, that can bring about this result, and of this fact the physician should not for a moment lose sight" (page 522).

This notice has run to such a length that we must content ourselves with a very brief allusion to Professor von Nothnagel's classical work on "Diseases of the Intestines and Peritoneum." The translation was made from the Second German Edition, which appeared in 1903. We observe that the editor, Dr. H. D. Rolleston, of St. George's Hospital, has made many additions to Professor Nothnagel's text. He is responsible for fresh sections on Intestinal Sand, Sprue (in which the Greek word ψιλός, bare, is wrongly printed φιλός), Ulcerative Colitis, and Idiopathic Dilatation of the Colon. But these additions by no means represent all the share he has taken in the preparation of the work for English and American readers. In the very full amount of invagination of the intestine which is given at pages 494 to 542, he freely quotes Mr. D'Arcy Power, of London, who has made a special study of that serious morbid condition.

A notable feature in this volume is the series of twenty plates with which it is illustrated. These plates are intended to show the appearances caused by normal and by excessive or abnormal peristalsis.

As in all German works, there is a very full bibliography, in which Germany takes up by far the greatest space.

Taking them all round, these volumes maintain the high standard attained by the previous instalments of "Nothnagel's Practice," as it is briefly called.

A Treatise on Applied Anatomy. By Edward H. Taylor, M.D. (Dublin Univ.); F.R.C.S.I.; Surgeon to Sir Patrick Dun's Hospital; University Examiner in Anatomy, and late Lecturer in Applied Anatomy, Trinity College, Dublin; Member of Council, and late Examiner in Surgery, Royal College of Surgeons, Ireland. Illustrated with 178 Figures and Plates, from original drawings, many printed in colours. London: Charles Griffin & Co., Ltd. 1904. Pp. 27 + 708.

It is with genuine pleasure we hail the appearance of the volume before us. Coming from the pen of a Dublin man we hope it may be the means of stimulating the literary talents of some other members of the profession in the city who are eminently fitted to produce something worthy of the Dublin School of Medicine and Surgery.

The work before us is one intended primarily for the senior student, but it is hoped to possess also real value for the specialist and general practitioner. The general arrangement is one which the author has found from experience the most popular with students in the lecture theatre. "Each region is introduced by a concise account of its topographical anatomy; developmental details are supplied where necessary, and subsequently the more important lessons—medical, surgical, and pathological—which are to be derived from it are presented for consideration." The author also tells us in his preface that although he has endeavoured to treat the subject of Applied Anatomy in a general way, yet in the main the book is surgical. In some respects, he says, its scope might have been more correctly expressed by giving it the title of "Surgery from the Anatomical Standpoint." In many respects, so far as the surgery goes, we agree with the author in this latter statement. If we are to judge of the value of a work by the amount of originality it contains, and if we look at the quantity and quality of the illustrations in the volume before us, then we cannot praise the work under review unduly. The illustrations are, in our opinion, the great attraction in the book; for accuracy and beauty they could not well be surpassed. The only adverse criticism we are tempted to make is that, in the first place, for a student we think the volume is too large—this is due entirely to the amount of surgery it contains—while, in the second place, for students we think the price—viz., 30s. net—too high.

The author is to be congratulated in placing before the profession a work so accurate, so readable, and so rich in number and excellence of its illustrations.

Obstetrics for Nurses. By JOSEPH B. DE LEE, M.D.; Professor of Obstetrics, North-Western University Medical School, &c., &c. London: Saunders & Co. 1904. Pp. 460. Fully illustrated.

THIS book has many good points to recommend it. Its directions are clearly written; the strictest attention is paid to aseptic technique, and the nurse is not confused by an undue amount of detail. The illustrations are extremely good, and if the objectionable American habit of including portraits of medical men did not disfigure them they might be said to be uniformly excellent.

Dr. de Lee does not apparently know the origin of the incubator, which he describes as "of the system of the Chicago Lying-in Hospital." As another American writer terms this pattern of incubator "de Lee's incubator," we think it well to say that the apparatus in question was devised by M. Lion, of Nice, prior to 1894, and that it has been used for a considerable number of years in the Maternité Lion at Paris. A model identical to that shown in Dr. de Lee's book has been in use at the Rotunda Hospital for nearly eight years. We cannot detect any difference between the chart shown in the same book as "used at the Chicago Hospital" and that originally brought out by M. Lion. Everyone remembers the story of the inventor of a cystoscope—we think at Vienna—whose instrument was re-christened in America, and who henceforth posted a policeman at the door of his clinic to keep Americans out. We trust that in the next edition of his book Dr. de Lee will give the credit of this very excellent pattern of incubator to those who are entitled to such credit.

Health and Disease in relation to Marriage and the Married State. A Manual Contributed to by Privat-dozent Dr. Med. G. Abelsdorff; Privat-dozent Dr. Med. L. Blumreich; Privat-dozent Dr. Phil. R. Eberstadt; Geh. Med.-Rat Prof. Dr. A. Eulenburg; Geh. Med.-Rat Prof. C. A. Ewald; Geh. Med.-Rat Prof. Dr. P. Fürbringer; Hofrat Prof. Dr. Med. M. Gruber; Dr. Med. W. Havelburg; Geh. Med.-Rat Prof. Dr. A. Hoffa; Prof. Dr. med. et phil. R. Kossmann; Geh. Med.-Rat Prof. Dr. F. Kraus; Dr. Med. R. Ledermann; Med.-Rat Dr. A. Leppmann; Geh. Med.-Rat Prof. Dr. E. v. Leyden; Prof. Dr. Med. E. Mendel; Dr. Med. A. Moll; Geh. Med.-Rat Prof. Dr. A. Neisser; Geh. Med.-Rat Prof. Dr. J. Orth, Dr. Med. S. Placzek; Prof. Dr. med. et phil. C. Posner; Privat-dozent Dr. Med. P. F. Richter; Prof. Dr. Med. H. Rosin; Dr. Med. W. Wolff. Edited by Geh. Medizinalrat PROF. DR. H. SENATOR and DR. MED. S. KAMINER. The only Authorised Translation from the German into the English Language by J. DULBERG, M.D., of Manchester, England. Vol. I. New York: Rebman Company. London: Rebman, Ltd. 1904. Royal 8vo. Pp. 498.

IN the present age—of the democratic and the practical rather than of the select and the ideal—there is a marked tendency to open and unreserved critical discussion of many matters and opinions which it was formerly considered indiscreet and undesirable, if not actually indecent and sacrilegious, to submit to public dissection by the scalpel of the scientific moralist. There is no doubt that familiarity begets contempt—sometimes even loathing, we should say—in regard to things emotional, as in other domains of daily experience. And, however the crabbed and the cynic may sneer and deride, there is no denying the fact that the sexual emotions of youth and early adult life represent one of the most powerful mainsprings of human activity, and of the most reliable reservoirs of feeling and thought, whose resources may be directed, or mis-directed, as fate or Providence may decide. Then the existence of an overmastering sexual appetite is as necessary to the preservation of the human species as is that of the gastric appetite to the survival of the individual. Taking these fundamental facts into consideration, in presence of the universal distribution of journalism and cheap literature, and so-called education, and intellectual progress (?), and universal enlightenment (??), and——all the innumerable "et cætera," the social and moral fact must be recognised that all questions connected with the physics of marriage must be discussed with the same ruthless criticism which is well recognised to be necessary in the investigation of questions of incomparably inferior importance in other domains of scientific investigation. The work, of which the first instalment now lies before us, bids fair to leave no question unopened in connection with the hygiene of the marital relationship. This first volume is divided into thirteen chapters:—I. Introduction; II. Hygiene of Marriage; III. Inherited and Congenital Diseases and Predispositions to Disease; IV. Consanguinity and Marriage; V. The Influence of Climate, Race, and Nationality on Marriage; VI. Sexual Hygiene; VII. Menstruation, Pregnancy, Child-bed, and Lactation; VIII. Constitutional Diseases; IX. Diseases of the Blood; X. Diseases of the Vascular System; XI. Diseases of the Respiratory Organs; XII. Diseases of the Digestive Organs; XIII. Renal Diseases. It is needless to say that the discussion of the items of such a programme within the limited space of a short review would be preposterous. The volume before us should surely be examined for himself by every medical practitioner. There are questions which he must endeavour to answer every day in private, and there are others which are daily receiving more attention in public. The work before us is a storehouse—approximately at least, we should say, inexhaustible—of such. The questions of racial degeneration and of decreasing birth-rate are too much on the tongues of the "enlightened" members of the English-speaking public all over the world to permit the medical practitioner to live an hour's peace in ignorance of any published views regarding such problems or the possible (or impossible) solutions thereof. And on this account we welcome this volume to our own private library, while confessing that the perusal of some of its pages was somewhat painful to us.

We cannot close this short notice without congratulating the translator on the very excellent rendering which he has given us of the original text. Although many sentences inevitably display the tendency to intricate entanglement so characteristic of German scientific literature, they are all English—indeed, they display the very unusual feature (in our recent experience of translations) that we should have hardly guessed that this was one if we had not been told. We would have thought that highly-educated German scientists had written in English. The printing is excellent; and the paper—priceless boon to the over-read reviewer—is not hot-pressed and shiny; while it offers the creamy tint on which the weary eye can repose without a conscious effort. The whole volume is brought out in the very best style of the eminent publishing firm of Rebman, Ltd.

We look forward to the perusal of the second volume of this work as a sure means of further increasing our knowledge.

A Manual of Medicine. Vol. V. Edited by W. H. Allchin, M.D. Lond.; F.R.C.P., F.R.C.S. Ed. London: Macmillan & Co., Ltd. New York: The Macmillan Co. 1903.

So much has been said in praise of the previous volumes of this excellent treatise that the final instalment might almost be accepted on trust. To say that Dr. Allchin and his collaborators endeavoured to write their articles on the lines of modern views and recent investigation is to give them the credit they deserve and to ensure an appreciative reading for the volumes, for so many books are now made by the simple process of copying what others have already written on each specific subject that busy practitioners are averse from taking the trouble to search for the stray scraps of original matter contained therein. If this work, which is now completed, contained nothing else of exceptional merit, the third volume on Diseases of the Nervous System and the articles on Diseases of the Heart in the fourth volume, of themselves would have placed this Manual of Medicine in the front rank of medical literature.

Judged on its own merits, however, the final instalment is worthy of commendation. Again, as on previous occasions, it is a pleasure to refer to the concise nature of the anatomical and physiological facts which set forth a description of the various organs whose abnormal conditions are subsequently depicted.

This fifth volume is devoted to "Diseases of the Abdominal Organs"; and here we must say the title is somewhat misleading, for the contents include diseases of the digestive system, among which are to be found those of the mouth, pharynx, and œsophagus.

For the chapters on these latter subjects Dr. Bertram Abrahams is responsible. The mouth wash, containing thymol, benzoic acid, and tincture of eucalyptus, which he recommends in the treatment of simple stomatitis, is not a presentable combination.

The editor confines the scope of his work in this volume to a brief description of the anatomy and physiology of the alimentary organs, diseases of the stomach and intestines, diseases of the pancreas, and of the liver in part.

It is to be observed that he has endeavoured to make a stand against the modern use of the term appendicitis as applied to all localised inflammations in the neighbourhood of the vermiform appendix. He confines the term to inflammation of the mucosa of the appendix, and adheres to the older and more accurate name of perityphlitis for the secondary peritonitis which results from lesions of the cæcum and appendix.

Lieutenant-Col. Crombie writes on Congestion, Inflammation and Abscess of the Liver, Dr. Lazarus Barlow on its Morbid Anatomy and Histology, the editor on the General Symptomatology of Hepatic Diseases and on Jaundice, and to Dr. Hebb has been entrusted the remaining hepatic lesions, as well as those of the biliary passages and gall-bladder. Diseases of the peritoneum are dealt with by Dr. Hale White in a most satisfactory manner, while Dr. J. H. Bryant has performed his task in a conscientious manner in describing the diseases of the abdominal blood-vessels. Dr. Rose Bradford has contributed a readable and instructive article on Diseases of the Kidney, and although the space at his disposal was limited, it is surprising how carefully he has selected the most important matter to lay before his readers.

Dr. Bertram Abrahams and Dr. Sidney Coupland have creditably coped with a difficult task in arranging their knowledge of Diseases of the Ductless Glands.

Fifteenth International Congress of Medicine. Lisbon. April, 1906.

We have received the second and third numbers of the *Journal of the Fifteenth International Congress of Medicine*, Lisbon, 1906. They contain a report of the affairs relating to the Congress up to date and the most important resolutions of the Central Committee. We may direct attention to the Colonial Exhibition which will be open at the moment of the Congress and the discussion about the Pellagra in Portugal, an enterprise undertaken by the section of Psychiatry. In the two numbers there is the list of the subjects of official communications, with the names of the authors who have undertaken to make them. In every section there is also a list of subjects recommended for voluntary contributions. Lastly, the Journal publishes the list of the National Committees of the several countries in which they are already constituted, and this includes nearly all.

PEEBLES HYDROPATHIC AND HOTEL.

H.I.M. THE GERMAN EMPEROR has conferred the Royal Order of the Prussian Crown on Mr. Albert M. Thiem, proprietor of the Windsor Hotel, Glasgow, and the Peebles Hydropathic and Hotel.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By H. T. Bewley; M.D.; Physician to the Adelaide Hospital, Dublin.

I. ON ACID INTOXICATION.
II. THE EARLY DIAGNOSIS OF TYPHOID FEVER.
III. THE TREATMENT OF RHEUMATISM BY THE INTRAVENOUS INJECTION OF SALICYLATES.
IV. THE TREATMENT OF BRONCHIECTASIS.

I. ON ACID INTOXICATION.

Drs. **Dreshfield** and **Moore** write a very important paper on this subject. Certain morbid phenomena are to be ascribed to the presence in the organism of acid products of metabolism, which, acting in virtue of their base combining powers rather than by any specific toxicity, prove pathogenic indirectly by inducing a disturbance of the basic constitution of the tissue fluids.

The phenomena regarded as characteristic of acid intoxication in the human subject, as exemplified in its prototype, diabetic coma, are—drowsiness, stupor and coma, occasionally preceded by excitement and rarely convulsions, peculiar deep respirations (" air hunger " of Kussmaul), accelerated pulse-rate, subnormal temperature and certain gastro-intestinal disturbances, as vomiting and epigastric pain. Associated with these manifestations there is invariably the excretion in abnormal abundance of certain products of metabolism—viz., acetone in the breath, acetone, aceto-acetic acid and β-oxybutyric acid in the urine, which also presents an ammonia content increased in proportion to the amount of the two alien acids.

These three substances—acetone, aceto-acetic acid and β-oxybutyric acid—are called the " acetone bodies." Their occurrence in the urine, apart from diabetes mellitus, has long been recognised, most frequently in some grave, general disorder; as cancer, severe anæmia, acute febrile disease, severe gastro-intestinal disturbance and states of marked inanition, which morbid conditions may be regarded as the cause of the disordered metabolism, of which the appearance of the acetone bodies is the result. Occasionally they have been noted along with the most profound manifestations of acid-intoxication in individuals in whom the metabolic disturbance appeared primary, as no general disease existed. Accordingly acid intoxication is conveniently grouped into (1) the diabetic form; (2) the secondary form; and (3) the cryptogenetic form or acid intoxication *sui generis*, each form presenting many degrees of intensity from the transient and symptomless acetonuria through the types in which acetonuria and diaceturia are associated with such manifestations as headache, drowsiness, vomiting, often in the secondary forms masked by the symptoms of the primary disorder, to the most intense comatose, and frequently fatal, types familiar in the coma of diabetes.

Three cases of the last variety—*i.e.*, primary and intoxication—are described which had been under the authors; care, and other cases are alluded to. In most cases more or less marked gastro-intestinal disturbance precedes the onset of the symptoms of acid intoxication.

The treatment consists of large doses of alkalies, combined with purgatives.

The following case is a striking example of the severe type of primary acid intoxication :—

A female, aged thirty, had suffered for some two months from attacks of vomiting, epigastric pain, constipation, pallor, general weakness and slight loss of flesh. On admission to hospital the patient, a fairly nourished, pale, somewhat flabby and neurotic woman, presented all the manifestations of severe acid intoxication—drowsiness, prostration, "air hunger," rapid pulse (98), acetone in the breath and acetonuria and diaceturia without glycosuria. The gastric disturbance, vomiting and pain ceased in a few hours. Two days after admission she suddenly became very excited, and then gradually lapsed into a comatose condition, which persisted till death occurred two days later. The air hunger, the excretion of the "acetone bodies" and the pulse acceleration remained till the end, the pulse finally counting 140. The temperature at first sub-normal, 97.4° F., rose during the last twelve hours to 103.6° F. The urine was acid, sp. gr. 1021 ; it contained a slight trace of albumen, smelt strongly of acetone, and gave well-marked reactions for that substance, and also for aceto-acetic acid (Gerhardt's reaction). A filtered sample in a 2dm. tube exhibited a rotation of –3°, an acidified ethereal extract presented similar negative rotation, and on distillation with H_2SO_4 crotonic acid was obtained, phenomena demonstrating the presence in the urine of β-oxybutyric acid. No reaction for sugar was obtained with Fehling's solution or phenyl hydrazine. Microscopic examination showed the absence of casts. Unfortunately no autopsy was obtained.—*Med. Chronicle*, May, 1904.

II. THE EARLY DIAGNOSIS OF TYPHOID FEVER.

Rucker (United States Public Health Service), in a paper on this subject, after discussing the value of the ordinary diagnostic signs, advocates the value of the detection of typhoid bacilli in the general circulation, stating that this is the most trustworthy as well as the earliest sign of the disease.

The technique of this method of investigation is comparatively simple, and can be easily carried out in any fairly well-equipped laboratory. The most important factor is the avoidance of contamination. To this end the arm at the bend of the elbow is prepared by the usual surgical methods, and a wet bichloride dressing allowed to remain until the time of taking the blood. The hands of the operator are prepared as for an aseptic operation. A constriction is placed above the patient's elbow to distend the veins, and the skin is anæsthetised by pure carbolic acid or ethyl chloride. A solid metal or glass syringe, provided with a tight piston and a sharp needle, is boiled for five minutes. The needle is passed directly into (not through) the vein, great care being taken not to contaminate it in any way during the procedure. Five cubic centimetres of blood are withdrawn, and distributed equally between five Erlenmeyer flasks, each containing 100 c.c. of bouillon. These are well shaken to distribute the bacilli from within the clots, and incubated for 24 hours, when, if a culture is apparent, transplantations may be made on the various media. The original flasks may be incubated for 24 hours longer, and a stab culture then made on agar. If the hanging drop at this time shows a motile organism, a six-hour culture in bouillon is made, and the Widal reaction tried with a known immune serum. The results of this method have proved very satisfactory, and its value in early diagnosis is shown by the fact that it occurs in about 87.5 per cent. of the cases during the first week.

As an evidence of the high diagnostic value of blood cultural methods in diagnosticating typhoid may be quoted Schottmüller, who, in his series of 119 cases, discovered the bacillus of Eberth in the blood in 84 per cent. The earliest case in which it was possible to make an examination was on the second day of the disease, and the result was positive. In a great many cases typhoid bacilli were discovered before the Widal reaction occurred.

These investigations must naturally alter our conception of the pathology of typhoid, in that they show that throughout the entire course of the disease the bacilli circulate in considerable number in the blood.—*Amer. Jour. of Med. Sci.*, Jan., 1904.

III. THE TREATMENT OF RHEUMATISM BY THE INTRAVENOUS INJECTION OF SALICYLATES.

It is known that whereas very large quantities of salicylic preparations are needed to effect relief of pain when administered by the mouth, comparatively small doses suffice to relieve pain and swelling when introduced through the skin into the tissues of the part affected. It would appear that salicyl preparations either lose part of their effect in the stomach and intestine or leave the body in great part without developing that effect. The next step logically is to inject salicylates hypodermically. This was first done by Riegel, who used the salicylate of caffein and sodium with excellent effect.

Similar considerations led Mendel (*Therap. Monatshefte*, April, 1904) to attempt intravenous injections of salicylates. The solutions he found most useful were the following:—

Sod. Salicyl.	- 8.0		Sod. Salicyl.	- 8.75
Caffein Sod. Salicyl.	2.0	or	Caffein	- 1.25
Aq. dist. ad	- 50.0		Aq. dist. ad	- 50.0

For adults, 2 grammes of these solutions are used, and the injections were repeated at intervals of from 12 hours to 3 days, as required. No ill effects were observed in 300 injections carried out by Mendel.

For all intravenous injections certain precautions are essential. The veins to be used must not be too small, and must be dilated as much as possible. The arm, with the fist tightly clenched, should be allowed to hang down for some time, and then elastic pressure should be applied, so as to interfere with venous return, without checking the arterial flow. The point chosen for injection should now be rubbed with ether and the elastic band loosened while the arm is still dependent. A marked hyperæmia now occurs, and the elastic band may then be re-applied with advantage. In this way even small veins are so dilated that it is easy to inject into them. The more fully the veins are distended with blood the less danger is there of injuring the blood corpuscles and the endothelium, especially if care be taken to loosen the band as rapidly as possible, and to choose a fresh vein for each repetition of the procedure. The vein must, of course, be fixed before injection, and blood allowed to rise in the needle, in order that one may be sure that the vein has been entered.

Some of Mendel's cases are reported fully, and may be briefly described. The first case in which he tried the method was that of a man of about forty, who had kept his bed for a fortnight with severe lumbago, which had resisted large doses of salicylate of sodium and aspirin. After a single injection of 0.4 gramme of salicylate of sodium his pains entirely disappeared, to his great astonishment. He was at once able to walk, and was free from pain until the next day, when it returned slightly, but was removed entirely and permanently by a second injection. Four other cases of lumbago were cured in the same way. The flying pains, to which rheumatic people are so prone in damp and cold weather, were just as amenable to treatment.

Sciatica was not so invariably cured. Recent cases required only two or three injections, but chronic cases needed longer treatment, and one very chronic case was entirely unaffected by the treatment, though no other cause except rheumatism could be found.

Mendel advises that acute febrile cases should be treated first internally, as many of them can be cut short in this way, and that intravenous injections should be used only when internal treatment fails, or, for any reason, cannot be carried out. The field where intravenous injection is most useful is in those cases where salicylates given by the mouth have either lost their effect or have never had any. These recurrences often go on for months, attacking first one joint, then another, and like the cases of mono-articular rheumatism, which usually affect the shoulder or knees, and are unaccompanied by fever, are generally quite uninfluenced by ordinary treatment with salicylates.—*Scottish Med. and Surg. Jour.*, June, 1904.

IV. THE TREATMENT OF BRONCHIECTASIS.

Dr. King analyses certain modes of treatment as carried out at the Brompton Hospital.

1. *Creosote Vapour Baths.*—He says that cough is lessened; expectoration is in favourable cases lessened; in most cases fœtor is greatly lessened; temperature is usually lowered; the general condition of the patient is in most cases improved. However, the mental effect is depressing; the patient, before the treatment, is often melancholic, and the effect of the bath is in many cases to render him much more so.

2. *Subcutaneous Injections of Guaiacol.*—Cough is relieved; temperature is lowered. The dose generally used at first was two minims of sterilised oil of guaiacol in olive oil (1 in 4) injected daily into the buttock; this was increased to 3 c.c. In severe cases these small doses sometimes did no good, and larger doses were employed. Thus, in a case of chronic pneumonia with probable bronchiectasis, in which the sputum was intensely fœtid, the initial dose was 30 minims of sterilised oil of guaiacol (in almond oil) 1 in 5 daily, and it was increased up to 150 minims. The injections were almost exclusively made into one buttock. The patient was too ill to be out of bed, and in a very melancholic condition. The effect on the sputum was a slight and steady decrease in its amount, with a marked lessening of its fœtor. At times the fœtor would be absent from one to two weeks or more, and then would return for a day. At first the temperature was some-

what lowered and became more regular, but as the doses were increased it became more irregular and of a more remittent type. When creosote baths were added to the injections, the temperature fell almost to normal, and the amount of sputum was increased. The most marked effect of all was the great improvement in the general condition of the patient, especially the mental condition. " I have " (he writes) " never seen so marked an improvement in any such cases, however mild. The improvement continued, and the patient was able soon to be taken down to take the creosote baths. I have to report however, that she suddenly expired while sitting up in bed taking her tea. On *post-mortem* examination no cause could be assigned for the sudden death, but the condition revealed was that of chronic pneumonia (unilateral), with a large gangrenous bronchiectatic cavity filled with foul-smelling, pultaceous material."

No inflammatory troubles in the buttock occurred. It should be mentioned that the buttock was thoroughly disinfected with carbolic acid poultices for some days prior to injection, and kept scrupulously clean. The hypodermic needle was boiled every time before use, and the guaiacol solution was specially prepared in small quantities every week.

3. *Intratracheal Injections.*—The fœtor of the sputum disappeared. The injection used was menthol 10 parts, guaiacol 2, olive oil 88 ; one drachm injected once or twice daily.

4. *Intravenous Injections of Formalin.*—With a special apparatus, illustrated in the original, 50 c.c. of a 1 in 2,000 solution of formic aldehyde in normal saline solution are injected into one of the veins of the arm, at first on alternate days, subsequently every day.

Dr. King records a very severe case which for a long period was greatly benefited by this treatment, but he has not had enough experience of it to enable him to arrive at a definite conclusion as to its value.

"As a result of my experience," he concludes, "I would say that the best results in the treatment of bronchiectasis are to be had from the combination of creosote vapour baths with subcutaneous injections of guaiacol in small doses (6 minims to 10 minims). Starting with this combination, I would give them once daily for the first few weeks, and during a period of at least a fortnight or three weeks I would increase the frequency of the creosote vapour baths two or three times daily, as the case may be, one daily injection only being given during this period; thereafter reverting for the remainder of the course of treatment to the initial doses. In most cases, to be of any decided value, the treatment must be continued for at least three to six months. In inveterate cases, I would be inclined to give a trial to the larger doses of the guaiacol (20 minims to 120 minims, according to its effects), in combination with the creosote vapour baths."—*Edin. Med. Jour.*, June, 1904.

(To be continued.)

SCHOOLMASTER AND DOCTOR.

At the recent Congress of the Royal Institute of Public Health held at Folkestone, Dr. Edmund Hobhouse (of Brighton) read a paper on this subject in the Section for Child Study and School Hygiene. The object of his paper was to show " how the modern school is moulded by the dicta of Medical Science." The questions which arise between schoolmaster and doctor have ultimately to be settled by an appeal to medical knowledge. Dr. Hobhouse thought that: (1) The present age in primary schools is far too low. (2) The length of hours incapacitated the brains of young children for prolonged attention, inattention being a psycho-physical, not a moral, defect in many cases. (3) Starving children cannot learn. Improvement in the food of boarding schools is necessary. Alcohol is not only unnecessary, but undesirable. The intervals between meals should not be too long, and their duration not too short. (4) The ventilation of classrooms and bedrooms is often inadequate. The standard for primary schools is inadequate. Artificial systems of ventilation are bad. Rooms must be warmed in winter. (5) The lighting and the position and construction of desks are most important. (6) The necessity of medical supervision of physical education and exercise is evident, and the elimination of the unfit is most desirable. The value of singing, and of breathing properly, should be taught. It is desirable to make a complete physical examination of all pupils at some time in school life.—*The British Journal of Children's Diseases*, September, 1904.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

MEDICAL EDUCATION AND EXAMINATIONS IN IRELAND.

1904–1905.

MEDICAL students in Ireland, as elsewhere, have in the first instance to choose between University Degrees and Non-University Qualifications or Diplomas. Should they elect to try for a University Degree, their choice must lie between the University of Dublin, which requires a Degree in Arts before registrable Degrees in Medicine, Surgery, and Midwifery are conferred, and the Royal University of Ireland, which—while not requiring a full Arts Degree—yet rightly insists on a liberal education in Arts, tested by more than one searching examination in the same, before a candidate graduates in the three branches of medicine already mentioned—Medicine, Surgery, and Midwifery.

Outside the Universities, the chief Licensing Bodies are the Royal Colleges of Physicians and Surgeons. The Conjoint Examination Scheme between the Royal College of Surgeons in Ireland and the Apothecaries' Hall of Dublin has ceased to exist. The position of the latter body as a Licensing Corporation under the Medical Act of 1886 has been defined by the appointment of Examiners in Surgery by the General Medical Council at the bidding of His Majesty's Privy Council.

The Royal Colleges of Physicians and Surgeons are in a position to give a first-class working qualification in Medicine, Surgery, and Midwifery—a qualification which is registrable under the Medical Acts, which is universally recognised as one of high merit, and the possession of which is attended by no disabilities, such as preventing its possessor from dispensing medicines or keeping open shop for the sale of medicines, if he is legally qualified to do so.

The Medical Schools in Ireland are—(1.) The School of Physic in Ireland, Trinity College, Dublin; (2.) The Schools of Surgery of the Royal College of Surgeons in Ireland (including the Carmichael College of Medicine and the Ledwich School of Medicine); (3.) The Catholic University Medical School, Cecilia-street, Dublin; (4.) The School of Medicine, Queen's College, Belfast; (5.) The School of Medicine, Queen's College, Cork; and (6.) The School of Medicine, Queen's College, Galway.

Facilities for Clinical Instruction in fully-equipped Medico-Chirurgical Hospitals exist in Dublin, Belfast, Cork, and Galway; but, as a rule, the Schools of Medicine in Ireland are not attached to a given hospital, or *vice versâ*, as is the case in London and other large centres of medical education. The student will, however, have little difficulty in selecting a hospital in the wards of which he will receive excellent bedside teaching, and have ample opportunity of making himself familiar with the aspect and treatment of disease.

The detailed information which follows is authentic, being taken directly from the published calendars of the respective licensing bodies.

REGULATIONS PRESCRIBED BY THE GENERAL MEDICAL COUNCIL.

With regard to the course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on *all* who commence their Medical Studies at any time after Jan. 1, 1892:—

(*a.*) The period of Professional Studies, between the date of registration as a medical student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *bonâ fide* study during not less than five years. For the purpose of this requirement the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration.

(*b.*) In every course of Professional study and Examinations, the following subjects must be contained:—

(I.) Physics, including the Elementary Mechanics of Solids and Fluids, and the Rudiments of Heat, Light, and Electricity.
(II.) Chemistry, including the principles of the Science, and the details which bear on the study of Medicine.
(III.) Elementary Biology.
(IV.) Anatomy.
(V.) Physiology.
(VI.) Materia Medica and Pharmacy.
(VII.) Pathology.
(VIII.) Therapeutics.
(IX.) Medicine, including Medical Anatomy and Clinical Medicine.
(X.) Surgery, including Surgical Anatomy and Clinical Surgery.
(XI.) Midwifery, including Diseases peculiar to Women and to New-born Children.
(XII.) Theory and Practice of Vaccination.
(XIII.) Forensic Medicine.
(XIV.) Hygiene.
(XV.) Mental Disease.

The first four of the five years of Medical Study must be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies and approved by the Council, where the subjects of Physics, Chemistry, and Biology are taught.

A student who has, previous to registration, attended a course or courses of study in one or all of the subjects, Physics, Chemistry, or Biology, in any University, School of Medicine, or Teaching Institution recognised by any of the Licensing Bodies, may without further attendance be admitted to examination in these subjects: provided always that such course or courses shall not be held to constitute any part of the five years' course of professional study.

The Examinations in the Elements of Physics, Chemistry, and Biology should be passed before the beginning of the Second Winter Session.

The General Medical Council recommends the Licensing Bodies to require that the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries, British or foreign, recognised by any of the medical authorities mentioned in

Schedule (A) of the Medical Act (1858), provided that of this year six months may be passed as a pupil to a registered practitioner possessing such opportunities of imparting medical knowledge as shall be satisfactory to the medical authorities, and that no qualification in medicine ought to be granted without evidence of Clinical Instruction in Infectious Diseases.

I.

UNIVERSITY OF DUBLIN.

DEGREES AND DIPLOMAS IN MEDICINE, SURGERY, AND MIDWIFERY; AND IN DENTISTRY.

The Degrees and Diplomas in Medicine, Surgery, and Midwifery, and in Dentistry, granted by the University are as follow:—

The Degrees are:—

1. Bachelor in Medicine.
2. Bachelor in Surgery.
3. Bachelor in Obstetric Science.
4. Doctor in Medicine
5. Master in Surgery.
6. Master in Obstetric Science.
7. Master in Dental Science.[a]

The Diplomas are:—

1. Diploma in Public Health (formerly Qualification in State Medicine).
2. Diploma in Medicine.
3. Diploma in Surgery.
4. Diploma in Obstetric Science.
5. Licence in Dental Science.[a]

REGULATIONS FOR MEDICAL STUDENTS.

The following conditions must be fulfilled in order to qualify for the Degrees in Medicine (M.B.), Surgery (B.Ch.), and Midwifery (B.A.O.):—

I. The Student must be of B.A. standing, and his name must be for at least five (Academic) years on the Books of the Medical School, reckoned from the date of his Matriculation. He may carry on his Arts Course concurrently with his Medical Course, and he need not have taken his B.A. before presenting himself for his Final Medical Examination, but he cannot have the Medical Degrees conferred without the Arts Degree.

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[a] See page 314.

II. The following Courses must have been attended:—

[Note.—The Courses marked thus (*) must have been taken out before the Student can present himself for any part of the Final Examination. In addition, the Courses marked thus (†) must have been taken out before he can present himself for Section B; the Courses marked thus (‡) before he can present himself for the Final Examination in Midwifery; the Courses marked thus (§) before he can present himself for the Final Examination in Surgery; and the Courses marked thus (**) before he can present himself for the Final Examination in Medicine.

1. LECTURES.

WINTER COURSES.

**Systematic Anatomy.*
**Descriptive Anatomy, 1st year.*
**Descriptive Anatomy (with Dissections), 2nd year.*
**Applied Anatomy (with Dissections).*
**Practical Physiology.*
**Chemistry.*
†*Surgery.*
**Physiology (two Courses).*
†*Practice of Medicine.*
‡*Midwifery.*
†*Pathology.*

SUMMER COURSES.

**Practical Chemistry.*
**Practical Histology.*
**Botany.*
**Zoology.*
**Materia Medica and Therapeutics.*
†*Medical Jurisprudence and Hygiene.*
§*Operative Surgery.*
†*Practical Pathology.*

TERM COURSES.

**Physics.*—Michaelmas, Hilary, and Trinity Terms.

‡§** 2. HOSPITAL ATTENDANCE.

1. Three Courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other Metropolitan Hospital recognised by the Board of Trinity College.

Students who shall have diligently attended the practice of a recognised London or Edinburgh Hospital for one year, of a recognised County Infirmary, or of a recognised Colonial Hospital for two years previous to the commencement of their Metropolitan Medical Studies, may be allowed, on special application to the Board of Trinity College, to count the period so spent as equivalent to one year spent in a recognised Metropolitan Hospital.

**3. PRACTICAL VACCINATION.

One month's instruction in Practical Vaccination to be attended at the Vaccine Department, Local Government Board for Ireland, 45 Upper Sackville-street; at No. 1 East Dispensary, 11 Emerald-street; or, until further notice, at the Grand Canal-street Dispensary.

**4. MENTAL DISEASE.

A Certificate of attendance on a three months' Course of Practical Study of Mental Disease in a recognised Institution.

‡5. PRACTICAL MIDWIFERY.

A Certificate of attendance on a six months' Course of Practical Midwifery with Clinical Lectures, including not less than thirty cases.

§6. OPHTHALMIC SURGERY.

A Certificate of attendance on a three months' Course of Ophthalmic Surgery.

III. The following Examinations must be passed:—

The Previous Medical or Half M.B. Examination.
The Final Examination.

The Previous Medical Examination must be passed in all its parts before any part of the Final can be entered for, except in the case of Candidates for Diplomas.

A.—PREVIOUS MEDICAL EXAMINATION.

This Examination is divided into—

1. Physics and Chemistry.
2. Botany and Zoology.
3. Anatomy and Institutes of Medicine (Practical Histology and Physiology).

The Examination in Anatomy includes examination on the dead subject.

Before presenting himself for examination in any of the subjects the Student must have obtained credit for the corresponding Courses of Lectures and Practical Instruction.

B.—THE FINAL EXAMINATION.

The Final Examination is arranged as follows:—

FIRST PART.

SECTION A.

Applied Anatomy (Medical and Surgical), paper and *vivâ voce*.
Applied Physiology and Physiology of the Nervous System and Sense Organs, paper and *vivâ voce*.
Materia Medica and Therapeutics, paper and *vivâ voce*.

Section B.

Medical Jurisprudence and Hygiene, paper and *vivâ voce.*
Medicine, paper and *vivâ voce.*
Surgery, paper and *vivâ voce.*
Pathology, paper and *vivâ voce.*

Section A may be passed in any part of the Fourth Year, provided the corresponding Curriculum shall have been completed; Section B not before Trinity Term of the Fourth Year.

Section A must be passed before the Candidate can present himself for Examination in Section B. Both Sections must be passed at least one Term before the Candidate can present himself for the Final Examinations in Surgery, Medicine, or Midwifery.

Fee for the *Liceat ad Examinandum* £5, to be paid when the Candidate enters for Section A.

SECOND PART.

MEDICINE.

Clinical Medicine.
Mental Disease (Paper).

SURGERY.

Clinical Surgery.
Operations.
Ophthalmic Surgery (Clinical).

MIDWIFERY.

Midwifery, paper and *vivâ voce.*
Gynæcology, paper and *vivâ voce.*
Obstetrical Anatomy, paper.

One Section of the Second Part must be passed in Trinity Term of the Fifth Year, or subsequently. The other two may be passed in any Term of the Fifth Year, provided the corresponding Curriculum shall have been completed. Subject to this provision the Sections may be taken in any order.

Fee for the *Liceat ad Examinandum* £5, to be paid when the Candidate enters for the Section for which he first presents himself.

The Candidate must also produce Certificates of attendance at the Hospitals where the Courses prescribed for each Section are to be taken out.

UNIVERSITY DIPLOMAS.

Candidates for the Diplomas in Medicine, Surgery, and Obstetric Science must be matriculated in Medicine, and must have completed two years in Arts, and five years in Medical Studies.

The dates, regulations, and subjects of Examination are the same as for the Final Examination, except that it is not necessary to attend the Courses of Lectures in Botany and Zoology, nor to pass the Previous Medical Examination in these subjects.

A Diplomate on completing his Course in Arts and proceeding to the Degree of B.A. may become a Bachelor, by attending the Lectures on Botany and Zoology, passing the Previous Medical Examination in those subjects, and paying the Degree Fees.

The *Liceat* fees are the same as for the Finals.

Each Candidate who has completed the prescribed Courses of study and passed all the Examinations will be entitled, if a Graduate in Arts, to have conferred on him the Degrees of M.B., B.Ch., B.A.O., on payment to the Senior Proctor of the Degree Fees amounting to £17. A corresponding regulation applies to the Diplomas, the Fees for which are £11. He will also obtain from the Senior Proctor a Diploma, entitling him to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

DIPLOMA IN PUBLIC HEALTH OR STATE MEDICINE.

The Diploma in Public Health is conferred, after examination, by the University of Dublin, upon Candidates fulfilling the following conditions:—

1. The Candidate must be a Doctor in Medicine, or Graduate in Medicine and Surgery, of Dublin, Oxford, or Cambridge.

2. The name of the Candidate must have been on the Medical Register at least twelve months before admission to any part of the Examination.

3. The Candidate must have completed, subsequent to Registration, six months in a Laboratory, recognised by the Provost and Senior Fellows, in practical instruction in Chemistry and Bacteriology applied to Public Health, and also have attended, practically, outdoor Sanitary work for six months, under an approved Officer of Health.[a]

4. The Candidate must, after obtaining a registrable Qualification, have attended during three months the practice of a Hospital for Infectious Diseases at which opportunities are afforded for the study of Methods of Administration.[a]

NOTE 1.—Methods of Administration shall include methods of dealing with patients at their admission and discharge, as well as in the wards, and the Medical Superintendence of the Hospital generally.

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[a] These conditions do not apply to Practitioners registered, or entitled to be registered, on or before January 1, 1890.

NOTE 2.—In the case of a Medical Officer of the Royal Army Medical Corps, a Certificate from a Principal Medical Officer under whom he has served, stating that he has, during a period of at least three months, been diligently engaged in acquiring a practical knowledge of Hospital Administration in relation to Infectious Diseases, may be accepted as evidence under *Rule* 4.

NOTE.—These Regulations have been approved by the Board of Trinity College. No opportunity has occurred for submitting them to the Council.

The Examination to be passed by the Candidate is prescribed as follows:—

PART I.

Chemistry, paper and practical.

Experimental Physics and Meteorology, practical.

Bacteriology and Pathology, paper and practical.

Candidates are liable to be examined in the method of conducting *post-mortem* Examinations.

PART II.

Hygiene and Epidemiology, paper.

Sanitary Engineering, paper.

Public Health Acts and Vital Statistics, paper.

Practical Sanitary Report.

The two Parts may be passed in consecutive weeks or with an interval between, at the option of the Candidate, provided that the requisite curriculum for each Part has been completed before the Candidate presents himself.

Examinations for Part I. will begin on December 12th, 1904, March 20th, 1905, and June 5th, 1905; for Part II. on December 15th, 1904, March 23rd, 1905, and June 8th, 1905.

Candidates are required to send in their names to the Registrar of the School of Physic at least a week before the first day of Examination.

Candidates who have registered since January 1st, 1890, are required to apply to the Board of Trinity College for leave to present themselves, a month before the Examination begins, and to submit at the same time Certificates of the required Courses of Study.

A fee of £10 (to be paid to the Senior Proctor) is required.

The attention of Students is directed to the importance of obtaining a Diploma in Public Health as soon as possible after they obtain their Medical Degrees. An increasing number of Public

Bodies are requiring it as well as the usual Qualifications in Medicine, Surgery, and Midwifery.

A collection of Sanitary Appliances has been placed in the Engineering Museum, with which Candidates should make themselves familiar.

II.

ROYAL UNIVERSITY OF IRELAND.

COURSES FOR DEGREES IN MEDICINE, SURGERY, AND OBSTETRICS.

General Regulations.

The Course for these Degrees shall be of at least five Medical years' duration; but Graduates in Arts or Science who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, shall be held to have completed the first of the five years of Medical Study.

Students who commenced their Medical Studies after Jan. 1, 1892, must furnish evidence of having been registered by the Medical Council, as Students in Medicine, for at least 57 months, before being admitted to the M.B., B.Ch., and B.A.O. Degrees Examination.

No one can be admitted to a Degree in Medicine who is not twenty-one years of age.

All Candidates for these Degrees, in addition to attending the lectures and complying with the other conditions to be from time to time prescribed, must pass the following Examinations:—

The Matriculation Examination.
The First University Examination.
The First Examination in Medicine.
The Second Examination in Medicine.
The Third Examination in Medicine.
The Examination for the M.B., B.Ch., B.A.O. Degrees.

The Course of Medical Studies shall be divided into five Periods of one Medical Year each.

Candidates shall furnish proper Certificates of attendance at the several Courses of Medical Instruction prescribed for the different years of the curriculum.

No such certificate will be received unless it attests a *bonâ fide* attendance at three-fourths of the whole Course. *Students are reminded that certificates of attendance at Night Lectures will not be accepted.*

No Certificates of instruction in any of the Courses of Medical Studies, in connection with either Lectures or Hospitals, can be received, unless issued by an Institution which has been formally recognised by the Senate.

The prescribed courses in Natural Philosophy, Chemistry, Biology, Anatomy and Physiology must be attended in Institutions provided with the appliances required for the performance by the Students of proper Experimental Courses and Practical Work in these subjects.

Where Certificates in a special department (Fever, Mental Diseases, Ophthalmology, &c.) are presented, they must be signed by the Physician or Surgeon in charge of such department.

THE EXAMINATION FOR THE M.B., B.CH., B.A.O. DEGREES.

Candidates may present themselves for this Examination after an interval of such period, not being less than one Medical Year from the time of passing the Third Examination in Medicine, as the Senate may from time to time prescribe, provided they shall have completed the entire Medical Curriculum.

Printed forms of application for admission to this Examination may be had from "The Secretaries, the Royal University of Ireland, Dublin."

This Examination consists of three parts:—

(*a*.) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology.

(*b*.) Surgery, Theoretical, Clinical, and Operative, including the use of Instruments and Appliances; Surgical Anatomy; Ophthalmology and Otology,[a] Surgical Pathology.

(*c*.) Midwifery and Diseases of Women and Children.

All Candidates must enter for and go through the entire Examination, but a Candidate may be adjudged to have passed in any of the foregoing parts in which he satisfies the Examiners.

Upon completing satisfactorily his Examination in all three divisions, the Candidate will receive, in addition to the parchment Diplomas recording his admission to the M.B., B.Ch., B.A.O. Degrees, a Certificate of having passed a Qualifying Examination in the subjects of Medicine, Surgery, and Midwifery.

The fee for this Certificate is *Ten Pounds*, which must be paid before admission to these Degrees.

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[a] Candidates at this Examination must exhibit reasonable proficiency in the use of the Ophthalmoscope and Laryngoscope.

HONOURS.

There are Special Examinations for Honours in connection with—

The First Examination in Medicine.
The Second Examination in Medicine.
The Third Examination in Medicine.
The M.B., B.Ch., B.A.O. Degrees Examination.

The Examinations for Honours are held subsequently to the corresponding Pass Examinations.

DIPLOMA IN PUBLIC HEALTH.

This Diploma is conferred only on Graduates in Medicine of the University.

Candidates may present themselves for this Examination after an interval of twelve months from the time of obtaining the M.B., B.Ch., B.A.O. Degrees.

Printed forms of application for admission to this Examination may be had from "The Secretaries, the Royal University of Ireland, Dublin."

Every Candidate must, when entering for the Examination, produce[a]:—

(*a.*) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, attended during a period of six months Practical Instruction in a Laboratory approved by the University. The nature of this course is fully indicated by the detailed Syllabus of the Examinations in Physics, Climatology, Chemistry, Microscopy, Bacteriology, &c.

(*b.*) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under (*a.*)) been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration, under the supervision of:—

(1.) In England and Wales, the Medical Officer of Health of a County or of a single Sanitary District having a population of not less than 50,000, or a Medical Officer of Health devoting his whole time to Public Health Work; or

(2.) In Scotland, a Medical Officer of Health of a County or Counties, or of one or more Sanitary Districts having a population of not less than 30,000; or

[a] These rules (*a*), (*b*), shall not apply to Medical Practitioners registered, or entitled to be registered, on or before January 1, 1890.

(3.) In Ireland, a Medical Superintendent Officer of Health of a District or Districts having a population of not less than 30,000; or

(4.) A Medical Officer of Health who is also a Teacher in the Department of Public Health of a recognised Medical School.

(5.) A Sanitary Staff Officer of the Royal Army Medical Corps having charge of an Army Corps, District, or Command, recognised for this purpose by the General Medical Council.

⁂ The certificate of an Assistant Medical Officer of Health of a County or of a single Sanitary District having a population of not less than 50,000 may be accepted as evidence under *Rule* (*b.*), provided the Medical Officer of Health of the County or District in question permits the Assistant Officer to give the necessary instruction and to issue Certificates. Provided that the period of six months may be reduced to a period of three months (which shall be distinct and separate from the period of laboratory instruction required under *Rule* (*a.*), in the case of any Candidate who produces evidence that, after obtaining a registrable Qualification, he has during three months attended a course or courses of instruction in Sanitary Law, Sanitary Engineering, Vital Statistics, and other subjects bearing on Public Health Administration, given by a Teacher or Teachers in the Department of Public Health of a recognised Medical School.

Every Candidate must produce evidence that, after obtaining a registrable Qualification, he has attended during three months the practice of a Hospital for Infectious Diseases at which opportunities are afforded for the Study of Methods of Administration.

Candidates at this Examination must answer in the following subjects:—

I. Physics.
II. Chemistry.
III. Meteorology.
IV. Sanitary Engineering and Architecture.
V. Bacteriology.
VI. Hygiene, Sanitary Law, and Vital Statistics.

There will be a practical examination, both chemical and microscopical, at which the candidate must make at least qualitative analyses.

In connection with the subjects of Sanitary Engineering and Architecture, candidates will be required to draw up a Sanitary

Report upon the condition of dwelling-houses or other buildings selected for the purpose, and to read plans, scales, sections, &c.

The Examination consists of two parts, which may be passed separately or together.

Part I. comprises the following subjects:—

Physics.
Chemistry.
Meteorology.
Sanitary Engineering and Architecture.

Part II. comprises the following subjects:—

Bacteriology.
Hygiene, Sanitary Law, and Vital Statistics.

The Examination in each part is oral and practical as well as written.

DIPLOMA IN MENTAL DISEASES.

This Diploma is conferred only on Graduates in Medicine of the University.

Printed forms of application for admission to this Examination may be had from "The Secretaries, the Royal University of Ireland, Dublin."

The subjects for this Examination are those prescribed for the Hutchinson Stewart Scholarship for proficiency in the treatment of Mental Diseases.

BELFAST.

QUEEN'S COLLEGE.

Clinical instruction is given at the Belfast Royal Hospital. The Ulster Hospital for Diseases of Women and Children, the Belfast Maternity Hospital, the Belfast Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Belfast District Lunatic Asylum, and the Belfast Hospital for Sick Children are open to students.

A pamphlet containing full information can be had free on application to the Registrar, Queen's College, Belfast.

CORK.

QUEEN'S COLLEGE.

Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students also can attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in-Hospital, the Maternity, the Hospital for Diseases of

Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session at Queen's College extends from October to April inclusive (twenty-seven weeks), but the hospitals are open to students in May, June, and July also, and arrangements have been made for the delivery of some of the three months' Courses of lectures during the months of April, May and June.

GALWAY.

QUEEN'S COLLEGE.

Clinical instruction is given at the Galway County Infirmary and the Galway Town Hospital.

Prizes.—Attached are eight scholarships of the value of £25 each. The Council may award Exhibitions to matriculated students at the examinations for junior scholarship. All scholarships and exhibitions of the second, third, and fourth years may be competed for by students who have attained the requisite standing in any medical school recognised by the College Council, and have passed the Matriculation Examination in the College, or in the Royal University of Ireland.

III.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

REGULATIONS FOR THE EXAMINATIONS IN MEDICINE, SURGERY, AND MIDWIFERY REQUIRED FOR REGISTRATION UNDER THE MEDICAL ACT, 1886.

These Regulations are obligatory on all Candidates commencing their Studies on or after October 1st, 1902.

PRELIMINARY EXAMINATION AND REGISTRATION.

The General Medical Council requires that every Candidate shall produce evidence—

(*a*) Of having, before entering on medical studies, passed a Preliminary Examination in general education recognised by the General Medical Council; and

(*b*) Of having been registered by that Council as a Student in Medicine, according to Regulations, which may be obtained on application at the office of the General Medical Council, 299 Oxford-street, London, W., or its Branches—Dublin, 35 Dawson-street; Edinburgh, 54 George-square.

Each Candidate before receiving his Diplomas must produce a Registrar's Certificate, or other satisfactory evidence, that he has attained the age of twenty-one years.

PROFESSIONAL EXAMINATIONS.

Every Candidate is required to pass four Professional Examinations.

Candidates will be admissible to the various Examinations as under :—

First Professional Examination not earlier than end of first winter session.

Second Professional Examination not earlier than end of second winter session.

Third Professional Examination not earlier than end of the third year of medical study.

Final Professional Examination not earlier than end of fourth year of medical study, but it cannot be completed till the end of the fifth year of medical study.

Before admission to any Examination every Candidate will be required to furnish evidence of having passed the previous Examination, and of having attended the various courses of instruction laid down in these Regulations for each Examination.

No Candidate shall be admitted to any Examination within three months of his rejection in the subjects of that Examination by this or any other Licensing Body.

FIRST PROFESSIONAL EXAMINATION.

FEES.

The Fee for this Examination is £15 15s.

SUBJECTS OF EXAMINATION.

The subjects of the First Professional Examination are :—

1. Chemistry and Physics.
2. Biology.

Every Candidate is required to produce evidence—

1. Of having passed in the subjects of the Preliminary Examination ; and
2. Of having attended Courses of Instruction in

Winter	(*a*) Theoretical Chemistry ; six months. (*b*) Physics ; six months.
Summer	(*c*) Practical Chemistry ; three months. (*d*) Biology ; three months.

Four complete years of Medical Study must be attended at a recognised Medical School after passing the First Professional Examination, and before completing the Final Examination.

NOTE.—The subjects of the First Professional Examination may be studied either at a Medical School, or at an Institution other than a Medical School recognised by the Colleges, after due inspection, for instruction in these subjects.

SECOND PROFESSIONAL EXAMINATION.

FEES.

The Fee for this Examination is £10 10s.

SUBJECTS OF EXAMINATION.

The subjects for the Second Professional Examination are :—

1. Anatomy.
2. Physiology and Histology.

Every Candidate is required, before admission to the Second Professional Examination, to produce evidence of having passed the First Professional Examination ; also Certificates of having attended :—

Anatomical Dissections ; two courses of six months each ; or one course of six months and two courses of three months.[a]

Lectures :—

Winter	(*a*)	Anatomy ; six months.
	(*b*)	Physiology ; six months.
Summer	(*c*)	Practical Physiology and Histology ; three months.

THIRD PROFESSIONAL EXAMINATION.

FEES.

The Fee for this Examination is £9 9s.

SUBJECTS OF EXAMINATION.

The subjects for the Third Professional Examination are :—

1. Pathology.
2. Materia Medica, Pharmacy, and Therapeutics.
3. Forensic Medicine and Public Health.

Candidates are not admitted to this Examination before the end of the third year of Medical Study.

Every Candidate is required, before admission to the Third

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[a] One of the two Courses of Dissections necessary for the Second Professional Examination should be taken out in the First Year, although not required for the First Professional Examination.

Professional Examination, to produce evidence of having passed the Second Professional Examination, and Certificates of having attended courses of instruction in—

(*a*) Pathology.

Winter
(1) A Systematic Course of three months.
(2) A Laboratory Course of practical instruction in a recognised Medical School; three months.

These Courses may be taken concurrently.

Summer
(*b*) Materia Medica, Pharmacy, and Therapeutics; three months.
(*c*) Public Health and Forensic Medicine; three months.[*]

Candidates are recommended to present themselves at the same time in all the subjects of each of the above Examinations; but may present themselves in one or more of the specified divisions separately, provided they have completed the curriculum as far as concerns the subjects or subject in which they present themselves.

FINAL PROFESSIONAL EXAMINATION.

FEES.

The Fee for this Examination is £6 6s.

SUBJECTS OF EXAMINATION.

The subjects of the Final Professional Examination are divided into three groups:—

1. Medicine, including Fevers, Mental Diseases, and Diseases of Children.
2. Surgery, including Operative and Ophthalmic Surgery.
3. Midwifery and Gynæcology, Vaccination, and Diseases of New-born Children.

Every Candidate is required before admission to produce evidence—

1. Of having passed the Third Professional Examination.
2. Of having attended—
    (*a*) A Medico-Chirurgical Hospital for twenty-seven months (three Hospital years).
    (*b*) A Midwifery Hospital, or Maternity, including evidence of having been present at thirty labours; six months.
    (*c*) Clinical Instruction in Ophthalmic and Aural Surgery; three months.

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[*] Nine of the twenty-seven months' Hospital necessary for the Final Professional Examination should be taken out in the Third Year.

(*d*) Clinical Instruction in Mental Diseases ; one month.

(*e*) Vaccination, Six Attendances to be signed by a Public Vaccinator.[a]

(*f*) Courses of Instruction at a recognised Medical School in—

- (*a*) Medicine ; six months.
- (*b*) Surgery ; six months.
- (*c*) Operative Surgery ; three months.
- (*d*) Midwifery (including diseases peculiar to women and to new-born children) ; six months.

Before admission to the Final Professional Examination in Medicine, satisfactory evidence must be produced of attendance in Fever Wards during either the third or subsequent year of Hospital attendance.

A Student at or after the end of his fourth year may present himself at any one of the groups 1, 2, or 3, provided he has completed his curriculum as far as concerns the group in which he presents himself. But one of the groups must be deferred till the end of his fifth year.

Candidates must have passed in *all* the Subjects of the Final Examination before any Diploma can be granted.

NOTE 1.—In the event of a Candidate showing himself ignorant of a subject or subjects, it shall be competent for the Committee of Management, on the recommendation of the Examiners, to require such Candidate, before presenting himself for re-examination, to produce evidence of such further instruction in such subject or subjects as the Committee of Management shall direct.

NOTE 2.—This curriculum shall be compulsory on all Students who commence their professional studies after the date of its adoption by the Colleges ; and all Students at present studying under the old regulations shall be permitted to present themselves for examination under the new scheme at and after the Autumn Examinations, 1902 : provided that, if any Student have presented himself for examination under the new scheme, he shall not be permitted to revert to the old scheme.

NOTE 3.—After the 1st of October, 1905, it shall be compulsory on all Students to present themselves under the new curriculum, save for such exemptions as the Committee of Management may decide to be necessary in order to prevent injustice.

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[a] By a Regulation of the English Privy Council no one can be appointed a public vaccinator in England who does not produce a certificate of proficiency in vaccination from a person authorised by the English Privy Council to grant same.

NEW REGULATIONS.

Existing Candidates will be permitted to come under the foregoing Revised Scheme, 1902, as undernoted :—

FIRST PROFESSIONAL EXAMINATION.

Candidates who have passed in Biology, Chemistry and Physics can proceed to the Second Professional Examination.

SECOND PROFESSIONAL EXAMINATION.

Candidates who have passed in Anatomy, Senior Physiology and Histology can proceed to the Third Professional Examination.

NOTE.—Separate credit will not be allowed for Physiology and Histology, which are now grouped as one subject.

Candidates under the former Regulations, who have passed in Part I. of the Second Professional Examination, can forthwith proceed to an Examination in Advanced Physiology alone, to be held concurrently with the Third Professional Examination.

THIRD PROFESSIONAL EXAMINATION.

Candidates who have passed in Pathology, Therapeutics, and Forensic Medicine may proceed to the Final Examination. Candidates who have already passed in either Pharmacy or Materia Medica will be exempt from Examination in these subjects.

FINAL EXAMINATION.

No exemptions are allowed from any portion of the Final Examination,

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EXEMPTIONS.

Candidates who, subsequent to 1st January, 1892, have passed in any of the required subjects at Examinations conducted by any Licensing Body recognised by the Royal College of Physicians and Royal College of Surgeons may, on application to the Committee of Management, be exempted from further examination in such subjects under this Conjoint Scheme.

Certificates of Study.

Winter Courses shall consist of not less than 50 Lectures, and Summer Courses of not less than 30 Lectures.

No Lecture Certificate shall be received unless the number of attendances certified thereon shall be at least *two-thirds* of these numbers.

As regards Medical and Surgical Hospital Certificates, the number of daily attendances certified shall not be less than 80 for the Winter Session, and 40 for the Summer Session.

Every Candidate shall produce evidence of having acted as Medical Clinical Clerk for three months, and as Surgical Dresser for three months. These appointments cannot be held concurrently.

In Mental Diseases 12 attendances will be required.

MATRICULATION AS PUPIL OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

All persons proceeding to the study of Medicine may, if approved by the Council, become matriculated pupils of the College on payment of five guineas, and having done so, will enjoy the following privileges:—

1. They will, if matriculated before the preliminary examination, be admitted on payment of £1 1s. (half fee).

2. They will be permitted to study in the Library and Museums of the College.

3. Their fee for the First Professional Examination will be reduced by £5 5s.

DATES OF CONJOINT EXAMINATIONS.

Preliminary - - - -	March and September.
First Professional - - -	April, June, and October.
Second ,, - - -	April, July, and October.
Third ,, - - -	April, July, and October.
Final Examination - - -	April, July, and October.
Supplemental Final Examination	January.

REGULATIONS FOR CANDIDATES FOR THE DIPLOMA IN PUBLIC HEALTH.

The following regulations are compulsory on all Candidates presenting themselves for Examination after January 1st, 1902, except as undernoted.

Stated Examinations for the Diploma in Public Health commence on the first Tuesday of the months of February, May, and November, and occupy four days.

A special Examination for the Diploma can be obtained—except in the months of August and September—on payment of £10 10s., in addition to the ordinary Fees mentioned below, and on giving notice at least one fortnight before the date of the proposed Examination.

Every Candidate for the Diploma in Public Health must be a

Registered Medical Practitioner, or hold a registrable Qualification. He must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, Dublin, three weeks before the Examination, and lodge with him a Testimonial of Character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh, together with certificates of the prescribed course of study.

Candidates registered as Medical Practitioners or entitled to be so registered after January 1st, 1890, must comply with certain Resolutions passed by the General Medical Council on December 1st, 1893, in regard to Diplomas in State Medicine.

⁂ The *Rules* as to study shall not apply to Medical Practitioners registered, or entitled to be registered, on or before January 1st, 1890.

⁂ The Executive Committee [of the General Medical Council] has power, in special cases, to admit exceptions to the Rules for the Registration of Diplomas in Sanitary Science, and report the same to the General Council.

The Fee for the Examination is Ten Guineas, which must be lodged in the Ulster Bank, Dublin, to the credit of the Committee of Management, at least two weeks before the date fixed for the Examination. Fees are not returned to any Candidate who withdraws from, or is rejected at, any Examination. The Fee for re-examination is Five Guineas.

The Examination for the Diploma in Public Health comprises the following subjects:—Chemistry and Chemical Physics, Meteorology, Engineering and Architecture, Hygiene, Morbid Anatomy, Vital Statistics, Sanitary Law. There is an Examination in the Laboratory, and also an Oral and Practical Examination.

IV.

APOTHECARIES' HALL IN IRELAND.

The First, Second, and Third Professional Examinations are held four times a year—viz., commencing the third Monday in January, April, July, and October.

The Final Examinations are held in January and July.

The Fees payable for each Examination are as follow :—

First Professional - -	£5	5	0
Second „ - -	5	5	0
Third „ - -	5	5	0
Final Examination - -	6	6	0

A Candidate is allowed for each Professional Examination which he has completed at any other Licensing Body, except the Final.

Ladies who comply with the regulations will be admitted to these examinations.

Candidates may be admitted to a Special Examination, under special circumstances, which must be laid before the Examination Committee. If the Candidate's application be granted, an extra fee of Ten Guineas over and above the full fee is required.

Candidates already on the Register will receive the Diploma of the Hall, on passing an Examination in the subjects which are not covered by their previous qualifications, and on paying a fee of Ten Guineas. If Medicine or Surgery is required, additional fees will be charged.

Licentiates of this Hall are entitled to enter as Candidates for the Fellowship of the Edinburgh Royal College of Surgeons.

COURSE OF STUDY FOR THE DIPLOMA.

Candidates who desire to obtain the Letters Testimonial of the Apothecaries' Hall in Ireland must, before proceeding to the Final Examination, produce evidence of having been registered as a Medical Student for 57 months; also of having attended Courses of Instruction as follows:—

Winter Courses of Six Months.

One Course each of the following:—

Anatomy (Lectures).
Chemistry—Theoretical.
Midwifery.
Practice of Medicine.
Physiology, or Institutes of Medicine.
Surgery.
Dissections, two courses of six months each.

Courses of Three Months.

One Course of each of the following:—

Materia Medica.
Medical Jurisprudence.
Chemistry—Practical.
Practical Physiology and Histology.
Operative Surgery.
Physics.
Clinical Ophthalmology.
Biology.
Clinical Instruction in Mental Disease.
Pathology.
Vaccination.

Medico-Chirurgical Hospital, twenty-seven months, to be distributed at the Student's own discretion over the last four years of his study. The Candidate may substitute for nine months in this Hospital Attendance six months as a Resident Pupil. He will be required to present a certificate of having taken notes of at least six Medical and six Surgical cases recorded under the supervision respectively of a Physician and Surgeon of his Hospital.

Three months' study of Fever—which may be included in his twenty-seven months' Hospital Attendance—in a Hospital containing Fever Wards, and having taken notes of five cases of Fever—viz., either Typhus, Typhoid, Scarlet Fever, Small-pox or Measles.

Six months' Practical Midwifery and Diseases of Women during the Winter or Summer of the third or the fourth year, at a recognised Lying-in Hospital or Maternity.

Three months' Practical Pharmacy, in a recognised Clinical Hospital or a recognised School of Pharmacy, or a year in the Compounding Department of a Licentiate Apothecary or a Pharmaceutical Chemist.

Each Candidate, before receiving his Diploma, must produce evidence that he has attained the age of twenty-one years.

EXAMINATIONS FOR THE DIPLOMA.

All information relative to the Examinations may be obtained from the Registrar of the Apothecaries' Hall, 40 Mary-street, Dublin.

Dental Education and Examinations in Ireland.

UNIVERSITY OF DUBLIN.

DEGREE AND LICENCE IN DENTAL SCIENCE.

The University of Dublin grants both a Degree and a Licence in Dental Science. To obtain the former, Candidates must have taken a Degree in Arts; the Licence is awarded to duly qualified persons who have passed the Public Entrance Examination of Trinity College, Dublin.

LICENCE IN DENTAL SCIENCE.

(*L. Dent. Sc., Univ. Dub.*)

Before passing the Entrance Examination in Trinity College or immediately after doing so, Students are advised to begin their three years' Course of instruction in *Dental Mechanics*, and to devote all their time during one year to this subject. Dental Mechanics may be learnt in the Mechanical Department of the

Dental Hospital, where a Fee of £100 is charged, or from a Registered Dentist, in which case the Fee charged is a matter of arrangement.

Having passed the Public Entrance Examination in Trinity College, Students should register themselves as Dental Students at the Registrar's Office in the Medical School, and commence the prescribed course of study, of which particulars may be obtained from the Registrar of the School of Physic in Ireland.

DEGREE IN DENTAL SCIENCE.

(*M. Dent. Sc., Univ. Dub.*)

The Course of study recommended in the case of Candidates for the Degree in Dental Science is the same as that for the Licence, with the addition of—

Pathology Lectures, ...	£2	2	0
Pathology, Practical, ...	2	2	0
Bacteriology, ...	3	3	0
	£7	7	0

which should be taken out in the fourth or fifth year.

Before presenting themselves for the Final Examination for the Degree, Candidates must—(1) have passed the Examination for the B.A. Degree; (2) have attended satisfactorily the Courses indicated above; and (3) must have had their names on the books either of the Medical School or of the Dental School, for a period of not less than five years. They must also have passed the Preiovus Dental Examination in all its parts, and have attained the age of twenty-one years.

The subjects for the Degree Examination are—

Medicine.
Surgery.
Pathology.
Bacteriology.
Dental Anatomy, Human and Comparative.
Dental Microscopy.
Dental Surgery and Pathology.
Dental Mechanics.
Orthodontia.

The fee for the Examination is £5.

Examinations will be held on Nov. 21, 1904; Feb. 20, June 5, 1905. Notice must be given to the Registrar of the School of Physic not later than a week before the Examination begins.

The Board of Trinity College is willing to consider applications, on the part of qualified practitioners and others, for recognition of Courses taken previous to the establishment of the Degree and Licence, in case they proceed to complete the Course.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

DIPLOMA IN DENTAL SURGERY.

The Royal College of Surgeons in Ireland grants Diplomas in Dental Surgery under conditions of which the following is a synopsis:—

The Candidate must be twenty-one years of age before being admitted to the Final part of the Examination.

The Candidate must have passed three Examinations.

1. Preliminary (identical with the Medical Preliminary).
2. Primary Dental. Fee, £10 10s. (This Examination is much the same as the Second Conjoint Professional.
3. Final Dental Examination. Fee, £10 10s. Candidates are examined in Dental Surgery and Pathology, and in Dental Mechanics, including the Metallurgy of the workshop.

   Candidates are required to do gold fillings, and construct mechanical work in the presence of the Examiners.

The Certificates required may be divided into General and Special.

1. The General Certificates required are about the same as those required by the Medical Student for the Second Conjoint Professional Examination.

The Special Certificates may be subdivided into—

1. Dental Hospital. 2. Practical Mechanical Dentistry.
   1. Dental Hospital. Two years' attendance, with Lectures in Dental Surgery and Pathology and in Dental Mechanics. Fee, £28 7s.
   2. Practical Mechanical Dentistry. Three years' instruction from a Registered Dentist. The fee for this is variable, but may be set down at from £50 to £150.

Large reductions in the Special Certificates required are made in the cases of qualified Medical Practitioners.[a]

As regards Dental Hospital practice, full information is contained in the Calendar for 1904–5 of the School of Dentistry in connection with the Incorporated Dental Hospital of Ireland, Lincoln place, Dublin. The Calendar may be obtained on application to the Dean, Dr. A. W. W. Baker.

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[a] Fuller particulars can be obtained by application to the Registrar, Royal College of Surgeons, St. Stephen's-green, Dublin.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Dubl., D.Sc. Oxon.; F.R.C.P.I.; F.R. Met. Soc.
Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, September 10, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending September 10, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 18.6 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, September 10, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Aug. 20	Aug. 27	Sept. 3	Sept. 10			Aug. 20	Aug. 27	Sept. 3	Sept. 10	
22 Town Districts	19.4	18.8	18.8	18.6	18.9	Lisburn -	22.7	4.5	27.3	13.6	17.0
Armagh -	20.6	13.7	20.6	48.1	25.7	Londonderry	18.9	15.1	23.9	15.1	18.3
Ballymena	–	23.9	14.4	23.9	15.6	Lurgan -	8.9	17.7	8.9	8.9	11.1
Belfast -	18.6	17.4	18.0	18.5	18.1	Newry -	4.2	8.4	37.8	29.4	19.9
Clonmel -	35.9	10.3	–	46.2	23.1	Newtownards	22.9	5.7	22.9	5.7	14.3
Cork -	15.1	17.8	15.8	17.8	16.6	Portadown -	–	5.2	25.8	25.8	14.2
Drogheda -	28.6	8.2	16.3	8.2	15.3	Queenstown	6.6	13.2	33.0	–	13.2
Dublin (Reg. Area) -	24.5	23.5	19.9	20.8	22.2	Sligo -	9.6	24.0	9.6	14.4	14.4
Dundalk -	–	8.0	4.0	4.0	4.0	Tralee -	10.6	15.9	26.4	10.6	15.9
Galway -	15.5	19.4	54.4	27.2	29.1	Waterford -	7.8	11.7	3.9	17.5	10.2
Kilkenny -	39.3	34.3	–	19.7	23.3	Wexford -	28.0	46.7	18.7	9.3	25.7
Limerick -	10.9	8.2	19.1	6.8	11.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, September 10, 1904, were equal to an annual rate of 3.1 per 1,000, the rates varying from 0.0 in sixteen of the districts to 9.7 in Waterford—the 9 deaths from all causes registered in that district including 5 from diarrhœal diseases. Among the 127 deaths from all causes in Belfast are one from measles, one from scarlet fever, one from whooping-cough, 3 from enteric fever and 16 from diarrhœal diseases.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week amounted to 182—91 boys and 91 girls ; and the deaths to 157— 83 males and 74 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 21.6 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the Area, the rate was 20.8 per 1,000. During the thirty-six weeks ending with Saturday, September 10, the death-rate averaged 24.9, and was 1.2 below the mean rate for the corresponding portions of the ten years 1894–1903.

Measles, influenza, and simple continued fever each caused one death, whooping-cough caused 4 deaths, and 26 were attributed to diarrhœal diseases. In the 3 preceding weeks deaths from diarrhœal diseases numbered 33, 35, and 26, respectively.

Broncho-pneumonia caused 2 deaths, and *pneumonia* one.

Tuberculous disease caused 30 deaths, including 7 from tubercular phthisis, 13 from *phthisis*, 2 from tubercular meningitis, one from tubercular peritonitis, one from tabes mesenterica, one from *scrofula*, and 5 from other forms of the disease.

Carcinoma caused 3 deaths, and *cancer* (*malignant disease*) 2.

The deaths of 5 infants were attributed to premature birth.

Diseases of the nervous system caused 8 deaths, including 5 deaths of infants, all under one year old from *convulsions.*

There were 25 deaths from diseases of the heart and blood-vessels.

Bronchitis caused 9 deaths.

In 6 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 children under one year old and the death of one person aged 73 years.

Sixty-eight of the persons whose deaths were registered during the week ended Saturday, September 10, were under 5 years of age (50 being infants under one year, of whom 12 were under one month old), and 39 were aged 60 years and upwards, including 18 persons aged 70 and upwards, of whom 6 were octogenarians, and 2 (a man and a woman) were stated to have been aged 90 and 96 years respectively.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished by Sir Charles Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

In addition, the Registrar of Armagh Urban District reports that 2 cases of smallpox occurred in that district during the week.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended September 10, 1904, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

Cities and Urban Districts	Week ending	Smallpox	Measles	Rubella, or German Measles	Scarlet Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Diarrhoeal Diseases	Other Notifiable Diseases	Total
City of Dublin	Aug. 20	-	*	*	7	1	-	-	16	5	-	*	*	*		[illegible]
	Aug. 27	1	*	*	13	3	-	3	18	6	-	*	*	*		[illegible]
	Sept. 3	-	*	*	9	2	-	2	7	12	-	*	*		1	[illegible]
	Sept. 10	-	*	*	5	1	-	1	6	8	1	*	*	*		[illegible]
Rathmines and Rathgar Urban District	Aug. 20	-	*	*	1	-	-	-	2	1	-	*	*	7		[illegible]
	Aug. 27	-	*	*	-	-	-	-	2	-	-	*	*	1		[illegible]
	Sept. 3	-	*	*	3	-	-	-	-	1	-	*	*	4		[illegible]
	Sept. 10	-	*	*	2	1	-	-	1	1	-	*	*	3		[illegible]
Pembroke Urban District	Aug. 20	-	1	-	-	3	-	-	-	-	-	-	-	*		4
	Aug. 27	-	1	-	-	-	-	-	1	2	-	-	2	*		[illegible]
	Sept. 3	-	-	-	1	-	-	-	-	2	-	-	-	*		3
	Sept. 10	-	1	-	8	-	-	-	2	-	-	-	10	*		[illegible]
Blackrock Urban District	Aug. 20	-	*	*	-	1	-	-	-	-	-	1	*	*		[illegible]
	Aug. 27	-	*	*	-	1	-	-	-	-	-	*	*	*		[illegible]
	Sept. 3	-	*	*	-	-	-	-	-	-	-	*	*	*		[illegible]
	Sept. 10	-	*	*	1	-	-	-	-	-	-	*	*	*		[illegible]
Kingstown Urban District	Aug. 20	-	*	*	-	-	-	-	-	-	-	*	*	*		-
	Aug. 27	-	*	*	2	1	-	-	-	-	-	*	*	*		[illegible]
	Sept. 3	-	*	*	-	-	-	-	-	-	-	*	*	*		-
	Sept. 10	-	*	*	-	-	-	-	-	-	-	*	*	*		-
City of Belfast	Aug. 20	-	*	*	10	2	-	17	16	5	-	*	*	*		[illegible]
	Aug. 27	1	*	*	11	-	1	30	18	8	1	*	*	*		70
	Sept. 3	1	*	*	11	2	1	25	27	7	-	*	*	*		[illegible]
	Sept. 10	-	*	*	12	5	-	17	25	5	-	*	*	*		[illegible]

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended Saturday, September 10, 1904, one case of smallpox was discharged from hospital, leaving 3 cases under treatment on Saturday.

Seven cases of measles were admitted to hospital during the week, 7 were discharged, and 34 patients remained under treatment at its close.

Nine cases of scarlet fever were admitted to hospital, 4 cases were discharged, and 53 cases remained under treatment at the close of the week. This number is exclusive of 3 convalescents still under treatment in Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Six cases of diphtheria were admitted to hospital, 6 were discharged, and 20 cases remained under treatment at the close of the week.

Six cases of enteric fever were admitted to hospital, 6 cases were discharged, and 54 cases remained under treatment at the close of the week.

In addition to the above-named diseases, one case of pneumonia was admitted to hospital, 3 patients were discharged, and 8 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, September 10, in 76 large English towns, including London (in which the rate was 15.2), was equal to an average annual death-rate of 17.5 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 15.7 per 1,000, the rate for Glasgow being 15.1, and for Edinburgh 14.0.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of August,* 1904.

Mean Height of Barometer, - - -	29.971 inches.
Maximal Height of Barometer (8th, at 9 a.m),	30.250 ,,
Minimal Height of Barometer (14th, at 9 p.m.),	29.442 ,,
Mean Dry-bulb Temperature - - -	58.2°.
Mean Wet-bulb Temperature, - - -	54.8°.
Mean Dew-point Temperature, - - -	51.8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.387 inch.
Mean Humidity, - - - -	79.8 per cent.
Highest Temperature in Shade (on 3rd), -	77.7°.
Lowest Temperature in Shade (on 24th), -	44.6°.
Lowest Temperature on Grass (Radiation) (24th),	41.2°.
Mean Amount of Cloud, - - -	59.2 per cent.
Rainfall (on 18 days), - - - -	2.903 inches.
Greatest Daily Rainfall (on 30th), - -	.903 inch.
General Directions of Wind, - - -	S.W., W., N.W.

Remarks.

While changeable, showery and breezy, August, 1904, deserves to be described as a favourable month. It began and closed with spells of warmth, whereas a distinctly cold period set in during the evening of the 15th, lasting until the morning of the 27th. Wednesday, the 3rd, was the warmest day of this year in Dublin—the range of temperature being from 61.7° to 77.7°, and the arithmetical mean being 69.7°. On the other hand, Wednesday, the 24th, was the coldest day of the month in Dublin, the diurnal range being from 44.6° to 62.1°, and the mean temperature falling to 53.4°. During the first five days torrid heat was felt in London, the maxima being 79°, 85°, 88°, 91°, and 78°, respectively.

The thermometer rose to or above 70° in the shade on nine days in Dublin—and on the 3rd the maximum was 77.7°. The duration of bright sunshine was estimated at 186.5 hours, or a daily average of 6.0 hours, compared with a twenty years' average of 162.7 hours, or 36 per cent. of its possible duration, recorded at the Ordnance Survey Office, Phœnix Park.

In Dublin the arithmetical mean temperature (60.1°) was slightly above the average (59.7°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 58.2°. In the forty years ending with 1904, August was coldest in 1881 (M. T. = 57.0°), and warmest in 1899 (M. T. = 63.4°).

The mean height of the barometer was 29.971 inches, or 0.074 inch above the corrected average value for August—namely, 29.897 inches. The mercury rose to 30.250 inches at 9 a.m. of the 8th, and fell to 29.442 inches at 9 p.m. of the 14th. The observed range of atmospheric pressure was, therefore, 0.808 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 58.2°. It was 1.7° below the value for July, 1904. Using the formula, ***Mean Temp.*** = ***Min.*** + (***Max.*** — ***Min.*** × .47), the mean temperature was 59.6°, or 0.3° above the average mean temperature for August, calculated in the same way, in the thirty years, 1871–1900, inclusive (59.3°). The arithmetical mean of the maximal and minimal readings was 60.1°, compared with a thirty years' average of 59.7°. On the 3rd the thermometer in the screen rose to 77.7°—wind, S.S.W.; on the 24th the temperature fell to 44.6°—wind, N.N.W. The minimum on the grass was 41.2°, also on the 24th.

The rainfall was 2.903 inches, on 18 days. The average rainfall for August in the thirty-five years, 1866–1900, inclusive, was 3.040 inches, and the average number of rainy days was 17. The rainfall, therefore, was slightly below the average, while the rainy days were slightly above it. In 1900 the rainfall in August was very large—5.871 inches on 17 days, establishing a record for August in Dublin; in 1889, 5.747 inches were registered on 22 days. On the other hand, in 1884, only .777 inch was measured on 8 days. In 1903, 2.800 inches fell on 26 days.

High winds were noted on as many as 13 days, and attained the force of a gale on 4 days—the 6th, 14th, 15th and 31st. Temperature reached 70° in the screen on nine days, compared with 18 days in August, 1899, 6 in 1900, 7 in 1901, and only one day in both 1902 and 1903. Lightning was seen on the 4th, 27th and 30th. Thunder was heard on the 23rd, and a slight thunderstorm occurred on the 17th. A lunar halo was seen on the night of the 24th. Fog was prevalent on the 28th and 29th.

The rainfall in Dublin during the eight months ending August 31st amounted to 16.808 inches on 135 days, compared with 21.872 inches on 157 days in 1903, 18.456 inches on 133 days in 1902, 14.384 inches on 106 days in 1901, 23.480 inches on 146 days in 1900, 18.200 inches on 117 days in 1899, 16.516 inches on 124 days in 1898, 19.388 inches on 149 days in 1897, 14.464 inches on 120 days in 1896, 9.455 inches on 96 days during the same period in 1887, and a thirty-five years' average of 17.660 inches on 130 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.969 inches, the range of atmospheric pressure being from 30.246 inches at 9 a.m. of the 8th to 29.446 inches at 9 p.m. of the 14th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 59.2°. The arithmetical mean of the daily maximal and minimal temperatures was 59.4°. The screened thermometers rose to 76.5° on the 3rd, and fell to 44.0° on the 20th. On this latter date the grass minimum was 40.2°, while on the 24th it was 40.1°. On the 3rd the black bulb *in vacuo* rose to 136.2°. Rain fell on 17 days to the amount of 2.916 inches, the greatest fall in 24 hours being .914 inch on the 30th. The duration of bright sunshine, according to the Campbell-Stokes recorder was 183.75 hours, of which 11.75 occurred on the 14th. The mean daily sunshine was 5.9 hours. The mean temperature of the soil at a depth of one foot was 59.9° at 9 a.m. and 60.8° at 9 p.m.; at a depth of 4 feet, it was 57.9° at 9 a.m. and also at 9 p.m.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, County Dublin, rain fell on 22 days, the total measurement being 2.93 inches, and the heaviest rainfall in 24 hours being .95 inch on the 30th. The corresponding figures for 1901 were 3.11 inches on 16 days, for 1902, 2.73 inches on 18 days, and for 1903, 2.78 inches on 25 days. The mean shade temperature was 60.5°, the range being from 77° on the 3rd to 47° on the 24th. In August, 1901, the M. T. was 60.5°, in 1902, it was 58.7°, and in 1903, 58.6°.

At the Ordnance Survey Office, Phœnix Park, Dublin, rain fell on 19 days to the amount of 2.795 inches, the greatest measurement in 24 hours being .700 inch on the 30th. The total amount of sunshine was 189.0 hours, the most on one day being 11 hours on the 7th.

According to Mr. R. Cathcart Dobbs, J.P., at Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.875 inches on 20 days, compared with 2.870 inches on 27 days in 1903, 3.520 inches on 16 days in 1902, 3.625 inches on 15 days in 1901, 5.995 inches on 16 days in 1900, 2.640 inches on 11 days in 1899, 3.185 inches on 18 days in 1898, 6.195 inches on 27 days in 1897, and 1.245 inches on 14 days in 1896. The heaviest fall in 24 hours was 1.030 inches on the 21st. The total fall since January 1 amounts to 18.577 inches on 129 days, compared with 23.100 inches on 134 days in 1903, 23.161 inches on 111 days in 1902, 19.685 inches on 100 days in 1901, 29.326 inches on 136 days in 1900, 25.630 inches on 120 days in 1899, 17.830 inches on 112 days in 1898, 25.945 inches on 143 days in 1897, and only 14.327 inches on 91 days in 1896.

At Cork the rainfall measured by Mr. W. Miller was 2.97 inches, or 0.52 inch under the average, the maximal fall in 24 hours being 0.91 inch on the 3rd. There were 17 rainy days.

Mr. A. A. Smith reports that at the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall was 7.504 inches on 23 days, 1.270 inches falling on the 3rd and 1.130 inches on the 5th.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 59.6°, being 0.7° below the average for the month during the previous 6 years, the extremes being—highest, 72.2° on the 3rd; lowest, 46° on the 20th. At Bournemouth the mean was 61.8°, the extremes being—highest, 76° on the 4th and 29th; lowest, 46° on the 25th. The mean daily range of temperature was 13° at Kingstown, and at Bournemouth 15.9°. The relative humidity at Kingstown was 74 per cent. The mean temperature of the sea at Sandycove bathing-place was 57°, being 2.1° below the average for August during the previous 6 years. The rainfall was 2.53 inches on 16 days, being 0.72 inches below the average for the month during the previous 14 years; 0.89 inch fell between 9 p.m. on the 30th and 9 a.m. on the 31st. The rainfall at Bournemouth was 3.07 inches on 15 days, and on the 5th 0.56 inch fell. The total duration of bright sunshine was 178.3 hours, as compared with 189.0 hours at the Ordnance Survey Office, Phœnix Park, 165.8 hours at Valentia, 145.7 hours at Parsonstown, 186.7 hours at Southport, and 211.6 hours at Eastbourne.

PERISCOPE.

CAMPHOR: MOSTLY A JAPANESE PRODUCT.

One of the inevitable results of the present Russo-Japanese conflict will be to lower the supply (and raise the price) of the familiar drug, camphor, throughout the rest of the world. The special nursery of camphor is the group of islands which form the Japanese empire, and some of the neighbouring ones. The source of the camphor of Japan is a majestic tree, *Laurus or Cinnamomum camphora.* It is obtained from the root and branches, which are heated in iron vessels surmounted by hemispheric domes, in which it condenses after sublimation. The chemical formula of camphor is $C_{10}H_{16}O$; it is chemically classed with the aldehydes, and forms one of the group of stearoptenes. The physical characteristics of this substance are too familiar to require detailed description. It is met with in masses of apparently crystalline form; of pronounced odour, and of hot and bitter taste. It is moderately friable; volatilises readily at ordinary temperatures; is but slightly soluble in water (1 in 870 parts), but is readily soluble in alcohol, ether, and oils. There is also a "camphor of Borneo," which is chemically an alcohol, and is obtained from the *Dryabalanops camphora.* The therapeutic uses of camphor are of considerable number and variety. Its antiseptic properties are seldom referred to now, but in the days before Lister it was found of great benefit in the local and constitutional treatment of hospital gangrene and erysipelas. It has also been administered with the same view in cases of intestinal disease. Camphor has an old-time reputation for relieving toothache, when a morsel is introduced into the external auditory canal. It is taken in the mouth for the same purpose—in the solid form or in solution. Its antipyretic action—although well defined—is seldom heard of now. Its chief reputation in Europe has for a considerable time been that of a diffusible stimulant. The German physicians employed it very extensively for some time in way of hypodermic injection (solution in oil). Camphorated lavements were employed in cases of adynamic typhoid fever. Like many other diffusible stimulants, it acts, in sufficient doses, as an antispasmodic ; and the combined or alternate exercise of these qualities will best explain its reputation in bronchitis and asthma. Its action on the skin is well known to be stimulating, an effect to which its volatility probably contributes. All such applications necessarily render latent a large quantity of the surface heat, and thereby stimulate the coats of the blood-vessels. Its known power of arresting diapedesis also aids in forming a scientific foundation for its reputation as an antiphlogistic and an antilactic. Its oft-mentioned aphrodisiac and anaphrodisiac effects, in small and large doses respectively, have probably no better foundation than the stimulating and antispasmodic properties above referred to. Its modern fame in this department seems to be largely a traditional expansion of the celebrated Salernitan verse

Camphora per nares castrat odore mares.

—*American Medicine, April* 30, 1904.

FROST-BITE IN THE TIBET MISSION FORCE.

In connection with the operations of the *Tibet Mission Force,* the importance of the lesions of " frost-bite " has received a degree of prominence to which it had long been unaccustomed in British surgery—military or civil. The subject is ably dealt with in the July number of the *Indian Medical Gazette* by Lieut. G. J. Davys, M.D., I.M.S., who there concentrates the data of his experience gained in the Chimbu Valley during the past winter and spring. He tells us that the prime cause of the condition generally was damp clothing, combined with extreme cold. He also states that, " paradoxical as it may seem, there is no doubt that very often the more serious results of frost-bite are directly due, not to excessive cold, but to carelessly applied heat." The pathology of the lesion is as follows:—*First stage.*—The cold causes great contraction of the peripheral arterioles, and the affected part, at first painful, becomes gradually numb. *Second stage.*—Complete expulsion of blood from the affected part owing to contraction of the tissues themselves due to the cold. The affected part now becomes absolutely without feeling of any kind. *Third stage.*—Simple death. The cold may be so long continued and severe that the affected part dies, and passes directly into a state of dry gangrene. *Death from heat.*—This, amongst the cases occurring in the force, was the most usual cause of severe results. The men affected used to hold the frost-bitten part practically in the fire; as a result, violent rapid œdema occurred, with severe pressure on the already damaged tissue, causing its death; this was followed by moist gangrene of the part. Lieut. Davys makes "three grades of severity" of the lesions of frost-bite: *Grade I.*—Simple death of the superficial layers of the skin, with peeling of the dead tissue later. Recovery is slow, but no permanent ill-result remains. *Grade II.*—Death of the whole skin, and sometimes of the superficial fascia. Recovery results in great scarring and deformity. *Grade III.*—Death extending to the deeper tissues, muscles, tendons, &c. This results in complete loss of the part. The *treatment* is prescribed as follows:—*During the first stage.*—By far the best treatment is massage, and after the circulation is to some extent restored, as shown by redness of the part, pain and "pins and needles," the application of luke-warm water. *During the second stage.*—It is in this stage that treatment is of the most value, and the following methods are recommended:—First, friction and careful massage may be tried either dry or with oil or vaseline to render the massage more efficient. If this fails alone, the affected part may be immersed in ice-cold water, and the vessel containing the water placed near, but not on, a fire and very slowly warmed, friction and massage being kept up all the time. Another method by which he got good results in a couple of foot cases was by wrapping the affected part very thickly in wool and bandages, and covering it in a box with warm sand. In all methods the warmth must be applied *very* slowly. For this reason friction is by far the safest treatment, but unfortunately not always successful alone. Internally, he generally administered drinks or gruel, and more rarely gave a very small amount of stimulant—either rum or brandy. The patients were always well wrapped in blankets, but never allowed close to a fire. *During the third stage.*—These cases always needed operative treatment. A few cases which refused operation, even when only slightly injured, all went to the bad.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"*Soloid*" *Ferric Chloride, gr.* 10 (0.648 *gm.*).

THE advantages of this preparation are obvious. A solution of ferric chloride carried in the ordinary way is often the cause of annoyance from the liability of the containing bottle to leak or break. Vexatious stains or even considerable damage may thus occur. "Soloid" ferric chloride provides a means by which such contingencies may be entirely avoided. Each product represents the amount of ferric chloride contained in 40 minims of solution of ferric chloride, B.P., and one, dissolved in a sufficient quantity of water to produce 40 minims, forms a solution equivalent to the official strength. By varying the quantity of water, this strength may be increased or diminished according to circumstances. This product contains a small quantity of ammonium chloride as a vehicle. It is issued in bottles of 100 by Messrs. Burroughs, Wellcome & Co., Snow Hill Buildings, London, E.C.

"*Tabloid*" *Ferric Chloride, min.* 10 (0.592 *cc.*).

THIS is another of Messrs. Burroughs & Wellcome's preparations, which will be found an extremely convenient means of administering ferric chloride, especially to patients requiring a regular course of treatment. By employing the "tabloid" preparation, the drawbacks associated with carrying fluid mixtures containing ferric chloride are overcome. Each represents the amount of ferric chloride contained in min. 10 of tincture of ferric chloride, B.P., and one, dissolved in a large wineglassful of water may be taken as may be necessary. This product contains a small quantity of ammonium chloride as a vehicle. It is issued in bottles of 100.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XVI.—*Notes on some of the Fevers met with in India.*[a]

By HOWARD CROSSLE, M.D. Univ. Dubl.; Lieutenant, Indian Medical Service, Bombay Presidency.

I DO not intend to deal with the different types of malarial fever and plague, as malaria is a very large subject in itself, and I have not had much experience with plague.

Enteric Fever.—Though not long ago it was actually denied that there was such a fever in India, it is now recognised as one of the greatest scourges to the British army out here. It is the chief cause of death, averaging over 25 per cent. of the total mortality. Among the natives enteric is uncommon, but cases have been noted in all castes. It is believed that the native, when a child, suffers from enteric just as children at home do from measles.

Enteric is most liable to occur in young people who have only recently come out to India. On the other hand, the greater the age and acclimatisation of the men, the less enteric occurs.

The modes of conveyance of this disease have been discussed lengthily and deeply. Schüder divides them into—70 per cent. water; 17 per cent. milk; the rest, other causes.

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[a] A Thesis for the Degree of Doctor of Medicine in the University of Dublin, June, 1904.

Infection by water is a common cause, but not an exclusive one, as the soil plays a large part in conveying the disease. Some parts of India are plagued with dust storms during the summer, and it has been noticed that enteric is most prevalent then. The dry earth system of latrines is very likely to spread infection if the earth is primarily infected. Soil pollution has much to do with the occurrence of sporadic cases, and where the soil is purified by proper drainage there is always a fall in the death-rate. Enteric is often caused by infected food. Milk is a dangerous spreader of infection, as it is a good nutrient medium for the growth of *B. typhosus*. Outbreaks of enteric have been frequently traced to a dairy. The careless and dirty habits of natives about barracks are dangerous, and the native cooks require constant supervision in order to get the food prepared in a moderately cleanly manner. Much enteric is contracted in the bazaars and brothels, due to the men eating sweetmeats and drinking aërated waters made from contaminated water. Flies are a great nuisance in the hot weather, and it is quite probable that they convey infection by walking on specific stools and then alighting on food, &c. Incineration of the stools, urine, &c., ought to be practised, as people do not realise that these contain the *B. typhosus* long after convalescence, and so are a source of danger.

The type of enteric met with in India is generally more severe than that met with at home. The death-rate also is greater, being about one-third, or 33 per cent., as compared with a mortality of from 5 to 20 per cent. at home.

In most instances, when men are admitted into hospital they have been ill for a few days previously, so one rarely has the opportunity of studying the disease from the beginning. In some cases I have noticed the temperature was high from the beginning, and did not rise in the usual ladder-like way. The fever is often atypical, resembling remittent or even intermittent fever. Hyperpyrexia is not uncommon, being the cause of death in one of my cases. Malaria often precedes or complicates enteric fever.

As a rule, rose-spots are not to be seen. I have seen only one case with typical enteric spots. Tache cerebrale is always present. In most of the cases on which these remarks are based it was noticed that the bowels inclined to constipation. Diarrhœa is not usually met with.

The spleen is, as a rule, enlarged and tender. This enlargement may in many cases be due to malaria, but one frequently comes across cases of enlarged spleen in people who have just come out to India, and in whom there is no question of malarial infection. Relapses occur fairly commonly, but the attack is then, as a rule, milder than the former one. Trifling rises of fever also occur from indiscretions in diet, excitement, and so on. Delirium is frequent, and accompanies a high temperature. Bronchitis is an early and dangerous complication. Pneumonia and pleurisy are uncommon. Epistaxis is frequent, but not serious. Cardiac complications are uncommon. Thrombosis is pretty frequently met with, almost entirely in the lower limbs. Hæmorrhage is, I believe, rarely met with, as is also perforation. One may get a true combined malarial and enteric infection. Dysentery and hepatic abscess may also complicate enteric fever.

The treatment of enteric fever is carried out in the same manner as in England.

Malta Fever.—Cases of this disease occur very rarely in the British army in India, and the diagnosis has been confirmed by the serum reaction. All the soldiers affected have been only a short time in the country.

It has yet to be found out if the disease occurs amongst the natives.

Small-pox.—This disease is now comparatively uncommon since vaccination has been universally practised throughout India. Many natives object to vaccination on account of prejudice and the fever and malaise following the operation. In some of the wilder districts the natives still practise inoculation, or even wilfully expose their children to contagion. As a result there are often widespread epidemics of the disease.

Small-pox is most prevalent from February to April. All varieties of the disease occur, but in general the type is severe. The varioloid type occurs fairly often, and therefore the natives in some places are inclined to doubt the efficacy of vaccination.

The method of treatment, as practised by the hakims, or native doctors, is rather peculiar. The child must not be given oil or any bitter things, otherwise deep ulcers will form when the scab falls off. When the disease has reached the pustular stage the native applies a mixture of ashes and water to minimise the scarring, but it is of very little effect, judging from the faces one sees in the bazaar.

Among the natives the chief complications are affections of the chest and brain, in the latter case sometimes going on to insanity. In addition, one constantly sees people with stone eyes, staphyloma, glaucoma, and opacities in the vitreous, which, on inquiry, are found to be due to mata or small-pox.

Scarlet Fever is very uncommon in India. Almost all the cases met with occur in people who have recently come out from Europe, and have caught the infection on board ship. It is most frequently met with in the hill stations, shows very little tendency to spread, and quickly dies out.

Cerebro-spinal Meningitis.—Epidemics of this disease occasionally occur in gaols, and are probably fostered by the underfeeding, overcrowding, and defective sanitary arrangements met with there. It is well known in the emigrant ships carrying coolies between Calcutta and the West Indies. The people most frequently attacked are young men who are starved and overcrowded.

The disease is probably spread by the nasal secretion, in which, even when dried, the specific coccus is found in a virulent condition. It has been noticed that during an epidemic there is a great increase in the number of pneumonia cases. It is quite possible that pneumonia may be clinically confounded with this disease, as meningitis often complicates the former affection. Lumbar puncture and bacteriological examination would, however, clear up all doubt.

The type most commonly met with is the ordinary form, commencing with headache, vomiting, and high temperature. Then follows the painful stiffness in the muscles, starting at the back of the neck, &c. Cutaneous complications occur frequently; herpes is common; petechiæ and erythema occasionally occur. Chronic headache is the most frequent after-result.

In gaols these cases are all isolated and treated as contagious.

Influenza first made its appearance in India in 1890. Since then it has been noticed to wax and wane in alternate years.

It bursts out at the change of seasons, being, as a rule, most prevalent during April and least so about October. The disease occurs most frequently in the hills—at the present moment there is an epidemic in Simla. This is probably due to exposure to chills, and also to the fact that most of the people who are sent to the hills are in a debilitated state, and so are more liable to the disease. In many cases epidemics of pneumonia and influenza occur concurrently. Prisons are often severely attacked.

The type of the disease is, as a rule, a mild one. In some epidemics the bronchial symptoms are most marked, in others nervous, and in others febrile symptoms are most manifest. Gastric and intestinal symptoms are rarely observed.

The bacillus of Pfeiffer has been discovered in the sputum and in the mucous discharges from the nose and pharynx.

Influenza is very liable to be confounded with simple continued fever, ague, and bronchitis.

Pneumonia is one of the chief causes of death in the native army and among the natives in general. It occurs most frequently in January and February, when the nights are very cold. The native has many habits which make him very liable to chest troubles. His house is generally small and stuffy, and inhabited by the husband, wife, and a large family. All holes are carefully blocked up to prevent air getting in, so there is no ventilation. Also, when asleep, the native always wraps his head up in the bed-clothes. Another dangerous habit he has, and no persuasion will turn him from it, is that of going to answer the calls of nature very early in the morning. He steps out from his warm, stuffy room into the cold night air, wearing a dhoti or loin cloth, and perhaps a blanket. Small wonder, then, that pneumonia carries off the native as it does. The dustiness of the air in many places causes this disease.

The type of pneumonia is generally severe, cerebral and maniacal symptoms being common. The tendency to heart failure is well marked. The temperature chart is, as a rule, typical. One, however, occasionally meets a chart showing a gradual defervescence by lysis, more especially in children. One of my charts shows a pseudo-crisis. Complications are not usual.

Relapsing Fever affects chiefly the poorer classes of people, such as weavers, mill hands, and such like, who live in overcrowded, deficiently ventilated houses. It often appears in an epidemic form in the gaols. In 1899 this disease was prevalent among the civil population of Bombay. In addition to the usual symptoms of fever, &c., there was a new feature present—a chain of small glandular swellings in the groin. This was not noticed by Vandyke Carter in the Bombay epidemic of 1876–1877. Plague was suspected, but a blood examination confirmed the diagnosis of relapsing fever.

In some epidemics jaundice is a marked symptom; in others, hæmorrhages, such as epistaxis, melæna, &c. As a rule one does not see more than three relapses in a case. Complications are not commonly met with. Pneumonia sometimes occurs, and is serious.

As regards treatment, medicine is useless. Ordinary hygienic measures and careful nursing are about all one can do.

In addition to the types of fever mentioned above, one often encounters cases of fever which cannot be so classified, and give great difficulty in diagnosis. One of the commonest is *simple continued fever*. This fever is due to change of season, want of acclimatisation, chill or exposure to the sun. It starts with a high temperature, 102° or more, with the usual accompaniments, and lasts for ten days or more. Hygienic measures and tonic treatment are indicated. People who are run down by continued residence in India frequently get a *low form of fever*, never rising above 100°–101°. This fever goes on persistently for months, and the patient becomes greatly wasted and debilitated. Medicines are of little use. Quinine never gives any relief. The only cure is to send the patient away for a change of climate. A long sea voyage is the best medicine he can have.

ART. XVII.—*The Treatment of Chronic Renal Disease.*[a]

By SIR JOHN W. MOORE, M.D. Dubl.; D.Sc. Oxon. (*Honoris Causâ*); F.R.C.P.I.; Physician to the Meath Hospital and County Dublin Infirmary.

I.

DISEASES of the urinary system are undoubtedly rife and fatal in Dublin. According to the returns published by the Registrar-General for Ireland the yearly average number of deaths from these diseases to every 10,000 persons living in the Dublin Registration Area, with its population of 378,994 (in 1901), was 6.0 in the ten years, 1893-1902. The corresponding figure for 1903 was 6.9. The deaths from all causes registered in the decade, 1893-1902, were 260.9 per 10,000 of the population; those registered in 1903 were 238.7 per 10,000.

In the Registrar-General's Tables, "Diseases of the Urinary System" are set out as "Acute Nephritis," "Bright's Disease (Albuminuria)," and "Other Diseases of the Urinary System." With the first we have nothing to do at present. The third division counts but little in the statistics.

From a pathological point of view, cases of parenchymatous nephritis, with its terminations in cirrhotic atrophy, fatty degeneration, and amyloid degeneration, outnumber those of chronic interstitial nephritis, or true cirrhosis of the kidney.

Considered from an ætiological standpoint, scarlatina, pneumonia, and other acute infections play but an insignificant part in the production of chronic parenchymatous nephritis, of which the prime causes are intemperance and exposure to cold and wet. Of chronic interstitial nephritis gout is an infrequent cause in the Irish metropolis. The cases are usually the result of chronic plumbism in house painters and plumbers, and, of course, alcoholic intemperance plays its part also.

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[a] Read before the Section of Medicine at the Oxford Meeting of the British Medical Association on Wednesday, July 27, 1904.

I cannot pass from the subject of ætiology without alluding to a form of chronic renal disease which is happily becoming rare in Ireland—namely, calculous pyelitis. When I was a medical student some six and thirty years ago, operations for stone in the bladder were of almost every-day occurrence. To-day they are strangely infrequent, because "stone" has itself become infrequent. This satisfactory change may fairly be ascribed to the substitution of an abundant supply of pure soft water from the Vartry River for the hard lime-waters derived from the Grand Canal and the Royal Canal in former days. In confirmation of this explanation I may mention that calculous disease, which in the past was rife in certain towns in Ulster, such as Lisburn and Lurgan, has greatly lessened in frequency since a soft water supply has been drawn from that inland sea—Lough Neagh. Bearing in mind the fact that calculous disease usually affects one kidney only, while the sound kidney takes on compensatory action and undergoes hypertrophy, we get a valuable clue to the radical and successful cure of this malady by nephrectomy. Only before we operate in a given case, let us make sure by cystoscopy or other means that the patient has two kidneys.

In 1903, Dr. Ramon Guiteras, of New York, recorded three cases of congenital single kidney. The first of these was that of a labourer, aged twenty-one years, on whom he operated for tuberculosis of the kidney. The patient passed ten ounces of urine on the day following the removal of the diseased kidney. After this not a drop passed either spontaneously or by catheterisation. The man died without uræmic convulsions or coma on the eighth day after operation. The autopsy revealed the absence of both kidneys, the left one having been removed. Mr. Henry Morris considers that one kidney is congenitally absent in one out of 2,400 bodies.

II.

It may seem a truism to state that before we plan a line of treatment in a case of chronic kidney disease it is desirable—indeed essential—not only to make an accurate diagnosis, but also to determine as far as possible the renal sufficiency in general, and even the functional power of each kidney. In their recently-published work on "Functional Diagnosis of Kidney Disease" Privat-Docent Leopold Casper and Dr. Paul Friedrich Richter, of Berlin, discuss the method of determining renal sufficiency in general under the headings:—(1) the elimination of nitrogen; (2) the elimination of chlorides; (3) the determination of the molecular concentration of the urine (cryoscopy); (4) the elimination of artificially-introduced substances (methylene blue); (5) the chemical activity of the kidneys; (6) the toxicity of the urine; (7) the determination of the molecular concentration of the blood. The determination of the functional activity of each kidney depends on the observation of—(1) the concentration of the secretion of the kidneys collected simultaneously and separately; (2) the elimination of nitrogen by each kidney; (3) the "molecular concentration" of each kidney; (4) the methylene blue test; (5) the phloridzin method.

A few words of explanation of the expressions "molecular concentration," the "methylene blue test," and the "phloridzin method" may be acceptable. In his admirable "Clinical Handbook of Urine Analysis," Dr. Charles H. Bedford, Professor of Chemistry in the Calcutta Medical College, defines cryoscopy as a means of obtaining from the freezing-point of the blood and urine an indication of the excretory activity of the kidneys. The process, he says, is based on the fact that the greater the number of molecules in solution the lower is the freezing-point. That is to say, the freezing-point shows the degree of *molecular concentration* (or, as it is termed, "osmotic pressure") in the fluid, while the specific gravity shows the weight of solids in solution in it. For example, in blood the freezing-point normally varies only from .55° to .57° C. below that of distilled water, while the specific gravity varies from 1,046 to 1,057. So long as even one of the kidneys is healthy the freezing-point of the blood never falls below .56° C. On the other hand, renal inadequacy results in a marked increase in the blood's molecular concentration, and the freezing-point falls below —.56° C. If the freezing-point is found to be —.65° or —.68° C., it would clearly point to inadequate excretion in the case of both kidneys. Professor Bedford claims that in chronic forms of nephritis, and especially in interstitial nephritis, the method of cryoscopy gives valuable indications of the lessened excretory power of the kidneys and acts in many cases as a danger signal.

The methylene blue test for the permeability of the kidney consists in the injection of one cubic centimetre of 1 in 20 solution of the aniline derivative, methylene blue, into the gluteus maximus. If the filtering power of the kidneys is unimpaired, the urine passed at the end of half an hour has a pale green colour, and within three or four hours after the injection the colour deepens to a dark green. The coloration finally disappears in normal cases within two days of the experiment.

Phloridzin—as is well-known—is a glucoside, obtained from the bark of the stem and root of the apple, pear, plum, and cherry. It possesses the remarkable property of inducing artificial glycosuria in animals to which it is administered. In using it as a test of renal inadequacy, it is, of course, necessary to determine whether glucose is already present in the urine. If it is, the test is inapplicable. The phloridzin test consists in injecting subcutaneously 5 milligrammes of phloridzin dissolved by the aid of sodium carbonate in 20 to 30 minims of water immediately after the patient has emptied the bladder. If the kidneys are adequate, glucose should appear in the urine in half an hour, when its amount may be estimated by Fehling's, or by Pavy's, method.

Dr. Bedford states that, in acute and subacute parenchymatous nephritis, glucose is not excreted, although methylene blue is; in interstitial nephritis (even when there is no albuminuria), the excretion of both methylene blue and of sugar is diminished; or the appearance of the chromogen or sugar is delayed, or the excretion period may be prolonged.[a]

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[a] Cf. Achard and Castaigne. Monographies cliniques. No. 23. 1900. Paris. Masson & Co.

III.

Treatment of chronic kidney disease should proceed on three main lines:—

1. *Dietetic*, of which the object is to avoid extra strain upon the already embarrassed and insufficient kidneys.

2. *Eliminative*, whereby we endeavour to rid the system of the poisonous products of tissue-waste, which are retained in the blood owing to renal failure.

3. *Cardiac*, by which we relieve the heart of the strain caused by long-continued high arterial tension in the earlier stages of kidney disease, and compensate its flagging power in the later stages. In speaking of high arterial tension in kidney disease, we are ready to accept the view of late put forward that it may be in great part due to the forcible action of the heart caused by "the circulation in the blood of increased amounts of nitrogenous metabolites, such as urea and its allies" (J. Rose Bradford).

1. It is scarcely necessary to go into details as to dietary in chronic nephritis. The kidneys should be kept flushed by water—but it must be soft water, like our splendid Vartry water in Dublin, or distilled water. Among natural mineral waters Contrexèville enjoys a well-deserved reputation in all forms of renal disease. Of course the amount of liquid imbibed should not be unlimited, and care must be taken not unduly to increase vascular pressure by a too liberal allowance even of water. Nitrogenous food should be given sparingly, but we must not let the patient suffer the pangs of starvation or waste for want of it. Milk is well borne in most cases, and is permissible—so also are the lighter animal broths, like chicken or veal broth. The farinaceous foods are of use. If milk is disliked or disagrees, equal parts of whey and egg water may be substituted—indeed, egg albumen should be given in all cases where the drain of albumen from the system is excessive. Unless in most exceptional circumstances renal patients are better without alcohol, even in small quantities or in diluted forms. Some patients dislike a "slop-diet," and crave solid food. White meats and white fish may be allowed in these circumstances—in

fact, many renal patients thrive on chickens, rabbits boiled in milk, and such fresh fish as sole, plaice, and whiting. The objection to "red meats" does not hold in chronic nephritis; and beef and mutton may be allowed in moderate quantities, if the patient so desires. Let us always treat our patients and not their diseases.

2. Elimination is effected through the kidneys themselves by increasing the glomerular pressure through copious draughts of pure, soft water. But special attention must be paid to the skin and bowels, an increased functional activity of which is everywhere recognised as of paramount importance in compensating for renal insufficiency.

But there is another path of elimination to which I wish to draw attention—namely, the lungs. If the blood is to be purified, if anæmia is to be prevented or combated, if the power of the heart is to be maintained, free oxygenation must take place in the lungs. In a word, the open air treatment, which is rightly regarded as indispensable in the management of pulmonary tuberculosis, is no less indispensable in dealing effectively with chronic renal disease. A warm atmosphere and warm clothing of non-conducting materials are, no doubt, necessary. But these requirements must not interfere with an abundant supply of fresh air. Where expense is no object, the cold and damp of a northern winter and spring must be avoided by a sojourn in a warm, dry and equable climate like that of Egypt. Algeria, Cyprus, or Sicily may also be mentioned in this connection. In unfavourable weather during a British winter, oxygen may be allowed to escape slowly from cylinders into the atmosphere of the apartment occupied by a renal case. And, incidentally, I may here refer to the great use of oxygen inhalations in the so-called "renal asthma" of uræmia.

Although over-exertion should be avoided, daily walking exercise in the open air is most desirable—the blood is aërated, the absorbents are stimulated, the appetite is improved, and the heart is strengthened by moderate muscular action.

To the long list of drugs which are named in connection with the eliminative treatment of chronic kidney disease

I would add two—benzoate of sodium and urotropin. Over and over again I have seen the drowsiness of impending uræmic coma overcome by 20-grain doses of the benzoate. To Dr. James Little, Regius Professor of Physic in the University of Dublin, I owe the following prescription:—

℞. Sodii benzoatis, - - gr. 240,
Tincturæ limonis, - - ʒi,
Aquæ, ad ℥vi.

Signa:—A tablespoonful by measure in half a tumblerful of hot water in the early morning, or as required.

Urotropin (or, to call it by its chemical name, "hexamethylene-tetramin") is a valuable urinary antiseptic and diuretic. It should be exhibited cautiously, and only for a day or two in 5-grain doses thrice daily. It is easily soluble in water, or it may be prescribed in the tablet form or as a granular effervescent powder (4 grains to the drachm).

While speaking of elimination, may I be allowed to express the opinion that general dropsy acts the part of an eliminant. Certain it is that uræmia is much more likely to occur in non-dropsical cases, such as are often encountered in chronic interstitial nephritis.

During the past session in the Meath Hospital and County Dublin Infirmary there were two cases of chronic parenchymatous nephritis which may be regarded as types of the opposite extremes in the matter of dropsy. One of these two patients was a woman, aged fifty, who was in an apparently dying state—there was excessive general anasarca, her lungs were water-logged, and 398 ounces of ascitic fluid were evacuated by paracentesis abdominis. The embarrassed heart was at once relieved by the withdrawal of the vast peritoneal effusion. The other patient was a lad of seventeen years, who had suffered from kidney disease for several months. There was no trace of dropsy either in the skin or in the lungs, or in the serous cavities. The only explanation of this remarkable circumstance was to be found in the physical condition of the heart, which was greatly hypertrophied, both ventricles contracting forcibly, and driving the blood headlong through both the systemic and the lesser circulation. The apex beat was 2½ inches below and half an inch to the outside of the left nipple.

The last case illustrates a point upon which I wish to lay particular emphasis—namely, that the physical state of the heart and circulation is the paramount factor in the prognosis of chronic renal disease. The indications for treatment are:—(1) To strengthen and aid the left ventricle in its work; (2) to relieve tension in the right ventricle; (3) to reduce high arterial tension towards (but not to) normal arterial tension.

(1) If the cardiac failure is urgent, a hypodermic injection of one-thirtieth of a grain of strychnin and one-hundredth of a grain of digitalis every sixth or eighth hour answers well.

Although blistering is theoretically contra-indicated, I have never known anything but good to result from painting a small circular space within the cardiac area (1½ inches in diameter) with the official "liquor epispasticus."

The various cardiac tonics may be prescribed as seems best in individual cases. Among them, digitalis still easily ranks first. There are two drawbacks to this drug—it increases arterial tension and it nauseates. The first objection may be met by giving an iodide with it—the sodium salt is certainly less depressing than the potassium salt, and the addition of aromatic spirit of ammonium will be useful; or a nitrite may be prescribed in combination with the digitalis. The second drawback is obviated by prescribing the drug in effervescence with effervescent citrate of caffein. For this purpose a suitable quantity of a mixture containing in every ounce 10 minims each of tincture of digitalis, spirit of chloroform, and tincture of orange may be added to a claretglassful of water and a teaspoonful or dessertspoonful of the caffein preparation. Iron, arsenic, and strychnin are an excellent triad of heart tonics for cases such as we are considering, and all three may be combined in the same prescription as solution of the perchloride of iron, hydrochloric solution of arsenic, and solution of strychnin hydrochloride.

(2) To relieve the pressure on the right ventricle, a full dose of saline laxatives, such as the sulphates of sodium

and magnesium, given in the granular effervescent form, will be found effective. A morning dose may be preceded by an aperient pill at bedtime the previous night. Hot-air baths do good by promoting free diaphoresis, or pilocarpin may be given cautiously for the same purpose. It is a treacherous drug, however, and may play one false by inducing bronchial effusion and pulmonary œdema—I speak from experience. Should hæmoptysis set in we should be in no hurry to stop it by the unscientific exhibition of styptics. On the contrary, the bleeding may do good by relieving heart-strain. The same remark applies to the "gastric crises" of uræmia, which often do good and seldom, if ever, do harm.

(3) Arterial tension, if running dangerously high, must be reduced gradually by laxatives, the various nitrites, the iodides, and a restricted diet. Iodide of iron may be combined with iodide of potassium, particularly in lardaceous disease. A suggestion of Dr. W. Howship Dickinson[a] seems to me to be admirably suited for the treatment of high arterial tension, whether it is due to chronic interstitial nephritis or not—namely, long soaking of the body in a bath of water of blood-heat, say 98° or thereabouts. He adds that this might be preceded by a brief immersion in a weak solution of bicarbonate of potassium.

In closing these remarks, I wish to draw attention to a novel method of treatment of chronic renal disease lately recommended and practised by Professor Renaut, M.D., of Lyons. It consists in the administration of macerated pork kidneys. The preparation is made as follows:—Take one, more frequently two, absolutely fresh pork kidneys, chop them up fine, and then wash them thoroughly in water so as to remove any stagnant urine they may contain. The chopped meat is then pounded up in a mortar with about twelve ounces of salt water (half a teaspoonful of salt). The mixture is left to macerate for four hours, and the liquid extract is then decanted. The patient will take it in three or four doses in the day. In order to make it more palatable, or rather less repugnant, to the patient, Dr.

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[a] Allbutt's System of Medicine. Vol. IV. Page 394.

Renaut generally adds to it a little warm broth (soupe julienne).

The administration of macerated kidney should not be continued for more than ten consecutive days, after which a rest of five days should be ordered, and the treatment then recommenced. It is needless to add that fresh kidneys should be procured every day.

It is claimed for this treatment that it acts as a powerful diuretic, checks albuminuria, or causes the symptom to disappear for long periods, and so affords a chance of restoration of the renal epithelium whenever this is histologically possible.

I have tried this method of treatment during the past spring in two cases, but with no very definite or satisfactory results. The preparation is certainly distasteful to the palate, and this counts for a good deal in the capricious appetite of Bright's disease. In my cases, also, the remedy appeared even to increase the loss of albumen, perhaps through over-stimulation of the tubal epithelium by an active principle, which, by analogy, we may call "renalin."

In conclusion, let us never despair in a case of chronic nephritis--intractable though the malady is, recovery is not impossible; and, even when this cannot be looked for, life may be prolonged for many years by judicious management and loving care. To attain this end, I take it, is the object which those who arranged this discussion had in view. May the discussion lead to the relief of human suffering, advance the cause of medical science, and prove worthy of the great Association to which we have the honour and privilege to belong.

QUININE IN HAY FEVER.

H. D. FULTON (*Journal of the American Medical Association*, July 30, 1904) says that his treatment for Hay Fever consists in the employment of a saturated solution of quinine sulphate, in sterilised water, as a nasal spray, and the application to the mucous membrane of the nares of an ointment consisting of quinine and petrolatum in the proportion of 30 grains to the ounce, the applications being made every four or six hours.—*Monthly Cyclopædia of Pract. Med.*, Philadelphia, Sept., 1904.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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Sixty-fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England and Wales (1902). London: Eyre & Spottiswoode. 1904. 8vo. Pp. clxxx + 308.

In 1902, Mr. William Cospatrick Dunbar, C.B., was appointed Registrar-General for England and Wales. On March 13, 1903, he signed his first Annual Report to the President of the Local Government Board "on the estimated population, and on the marriages, births, and deaths registered in England and Wales during the year 1901." A similar Report for 1902, dated July 1, 1904, now lies before us, and we desire to draw attention to some of its salient features. We do so all the more willingly because the Registrar-General had no sooner entered upon his high office than he hastened publicly to acknowledge the assistance so freely given to the work of registration by the Medical Profession. "I have arranged," he wrote in 1903, "that Dr. Tatham should draw up his ætiological review of this branch of the subject [*i.e.*, Causes of Death] in the form of a letter addressed to me, which will follow this Report. I have adopted this course, as it occurs to me that the medical practitioners of this country, on whose generous co-operation the accurate compilation of vital statistics so largely depends, will, in this way, more readily appreciate the fact that the particulars they contribute concerning the causes of death are analysed, and the results authenticated, by a member of their own profession."

Medical interest will naturally centre in the masterly yearly analysis of the causes of death in England and Wales which the Medical Superintendent of Statistics at Somerset House, Dr. John Tatham, M.A., M.D. Dubl., Fellow of the Royal College of Physicians of London, throws into the form of a letter addressed to the Registrar-General.

The early history of the science of Vital Statistics in England must necessarily be gathered from the series of official communications which in the course of his long period of service—extending over forty years—the late Dr. William Farr contributed to the Reports of the Registrar-General. "The fact should be clearly indicated," writes Dr. Tatham, "that it is to the late William Farr—the acknowledged founder of that Science, and for more than forty years the respected chief of the statistical branch of this office—that is due the distinction both of having been the first to apply statistical methods to the analysis of the English Death Roll, and of having rendered the teachings of that analysis available to the State for purposes of prevention." Dr. Tatham goes on to say: "From the outset to the close of his official career Dr. Farr's energies were concentrated on the endeavour to enlist the willing co-operation of the medical profession, so as to secure the personal attestation of every death occurring under medical care. This object he cherished as essential to the perfection of National Registration, and he looked forward to its attainment as the main condition wanting to secure for the statistical records of his office the confidence of scientific men."

Farr sought to impress upon medical practitioners and students the duty of searching beyond symptoms for the actual *causes of disease*, and Dr. Tatham points out that it is a just tribute to his genius that "the system (of registration of the causes of death) which he devised and afterwards improved should more than forty years later have commended itself for adoption as the basis of their ætiological classification by the highest medical authority in the land." Dr. Tatham alludes in this passage to the Memorandum on Classification in the first revision (1885) of the Nomenclature of Diseases by the Royal College of Physicians of London.

On Dr. Farr's retirement from office, in 1880, in consequence of ill-health, Dr. William Ogle was appointed his successor. He adopted a system of classification, according to which the deaths registered in England and Wales during the twenty years ending with 1900 were classified and tabulated in the General Register Office, Somerset House.

The Royal College of Physicians of London have issued three editions of their "Nomenclature of Diseases"—the first in 1869, the second in 1885, and the third in 1896. A fourth edition is now being prepared and will probably be published in 1906. Writing in Ireland, we are glad to be in a position to state that the London College cordially invited the co-operation of the Royal College of Physicians of Ireland in the work of revision and co-opted a representative of the Irish College on the Revision Committee.

The advance of medical science called for many changes in the nomenclature of diseases, while it was imperative that any important changes in the forms of the statistical tables in the Registrar-General's Reports should be initiated at the commencement of a new decennium. Accordingly the Registrar-General, assured of the cordial co-operation of the Royal College of Physicians, of which Dr. Tatham is himself a distinguished Fellow, did not wait for the publication of the fourth edition of the "Nomenclature of Diseases," but adopted a simple tabular arrangement to differentiate the chief causes of mortality in England and Wales in and after the year 1901—the first year of the Twentieth Century. We may here mention that the new Classification has received the sanction of the English and Irish Royal Colleges of Physicians, and has been adopted by the Registrars-General of Scotland and Ireland in their annual reports. The general arrangement of the Tables containing the Official List of Causes of Death was determined after consultation between the Registrars-General of each division of the United Kingdom. Accordingly the causes of deaths are now tabulated on a uniform principle throughout the Kingdom.

The lines on which the revised list of "Causes of Death" proceed may best be understood from the following statement in Dr. Tatham's letter in the Sixty-Fourth Annual Report of the Registrar-General:—

"Recent investigations have cast considerable doubt on the validity of some hitherto accepted theories concerning the nature and the affinities of important morbid conditions; certain diseases in particular, formerly considered merely local, being now authoritatively declared to be essentially infective in character. In each of such cases—and they are by no means exceptional—the disease in question has been transferred from its original place in one group to an entirely different heading in another group, thus seriously impairing the comparability of those groups of diseases whose composition has been modified. It must be borne in mind, however, that what is essentially requisite in statistical tables intended for public health purposes is that they should furnish comparable details for current and past years—not concerning arbitrary groups of diseases, but concerning individual diseases considered as causes of death: for by such means it is that the actual influence of sanitary effort on human health and longevity may most accurately be ascertained and measured.

"Inasmuch as there is good reason to hope that in the wake of further advances in pathological research corresponding improvements will follow in medical knowledge concerning the natural history of diseases, it is more than doubtful whether any stereotyped classification could be devised, that would permit of tabular modifications from time to time, commensurate with the requirements of scientific medicine.

"A distinctive feature of the system now in use is this—that for the reason just given the attempt to assign names to 'classes' and 'orders' of disease has been practically abandoned. *Inter alia*, the case of the old order of 'constitutional diseases' furnishes a weighty argument against adherence to the classification hitherto in vogue. This order consisted of two principal sections, 'Tuberculous Diseases' and 'Malignant Diseases,' the residue being made up of a few other morbid conditions numerically of less importance. In accordance with the now established knowledge of its infective nature tuberculosis has necessarily been removed from this order, which has therefore been practically destroyed, inasmuch as any attempt to retain the name 'constitutional' for what remained of the order—cancer, rheumatism, diabetes, rickets, &c., being in juxta-position therein—could only have led to confusion. Accordingly, in the new list the various forms of tuberculous infection are placed in a separate group. Pneumonia, likewise, in recognition of its infective character, has been removed from among the local disorders and inserted among those conditions to which it is more closely allied. It will further be noticed that the order adopted in the old group of 'circulatory diseases' has been re-arranged so as to discriminate between affections of the blood-vessels and those of the heart: among the former 'cerebral hæmorrhage' (together with its symptoms apoplexy and hemiplegia) will now be found, having been transferred to that position from among diseases of the nervous system. With the object of encouraging the use in death certificates of the authorised names in the official nomenclature of diseases certain important headings in the old tables have now been divided into two sections, in order to distinguish those cases in which the cause of death has been certified in precise terms from those cases in which obsolete or unauthorised names have been employed: these latter names are branded in the new tables by the use of italic type.

"The classified list of diseases hitherto in use having thus been replaced by a simple enumeration of individual causes of death, it is confidently hoped that any modifications which may hereafter be required in the national records of mortality will not seriously affect the comparability of facts in a series of years. From the nature of the case, students of Vital Statistics will assuredly require to classify causes of death according to the special requirements of a given investigation; and, therefore, it is believed that the method which has been adopted in the accompanying Tables will be found satisfactory to all investigators alike." (Sixty-fourth Annual Report, published in 1903, pp. xxxvi–xl.)

Such are the changes which, in view of the opening of a new century, have been made in the list of diseases used officially in the General Register Office, Somerset House, as well as in the General Register Offices of Scotland and Ireland, for the abstraction of causes of death. The new list, accompanied by suggestions for its employment in certifying causes of death, has been distributed freely among registered medical practitioners. A copy of the list and suggestions also has been inserted in the books of Medical Certificate forms issued by the General Register Offices, so that medical practitioners have the necessary guidance in their hands at the very moment of making the statutory attestation of the cause of death. Dr. Tatham, in his letter to the Registrar-General embodied in the Sixty-fifth Annual Report—that for 1902—writes as follows:—

"A consideration that may account in some degree for the readiness with which the new departure has been accepted by the medical profession generally is probably this—that the list of diseases has been arranged in substantial conformity with the nomenclature of the Royal College of Physicians. In any event," he adds, "it is to me a pleasing duty to acknowledge that although a period of not more than two years has elapsed since this change was initiated, a decided improvement is already manifest in the certificates of cause of death."

Since the close of the last century certain new features have been introduced into the Annual Reports of the Registrar-General, with the object of increasing their value for scientific purposes. For these we have to thank Dr. Tatham. In the first place, with a view to the encouragement of ætiological study, he has appended to the General Abstracts a supplementary table, in which are entered those of the deaths from diseases of special organs or parts of the body that were certified as "infective" or "septic" in character. This Supplementary Table (to be found at pages 152, 153, 170, 171) will facilitate the separation of the infective cases whenever, for particular purposes, such a course may be deemed necessary.

In the second place, with the object of indicating as accurately as possible the aggregate mortality incidental to the puerperal state, a Table is now annually prepared showing not only the deaths from puerperal infective conditions and from diseases and accidents of child-birth that are given under those headings in the General Abstracts, but also the deaths from all causes whatever, either complicating or occurring in connection with pregnancy or child-birth, whether such causes were specified in the original death certificates or were ascertained subsequently from the medical attendants. This Table, which appeared in the Report for 1901 for the first time since 1880, will doubtless be appreciated by gynæcologists and by obstetric practitioners in general.

Lastly, it is worthy of notice that the new Tables prepared for the previous Report—that for 1901—in order to discriminate between urban and rural mortality in England and Wales, have now been extended so as to show the rates of mortality from certain diseases—not, as on that occasion, in one year alone, but, in addition, the average rates in a group of five years. For these average rates Dr. Tatham has suggested a statistical function, by which local death-rates, not only from all causes, but in many cases also from particular diseases, should be reduced to a common standard. The corrected death-rates are the death-rates as they would have been had the age and sex constitution of a given urban or rural locality been the same as that shown by the Census of 1901. By "age-constitution" is meant the relative proportions of young, middle-aged, and old persons in a given population. By "sex-constitution," of course, is meant the relative proportion of males and females. The uncorrected rates of mortality are called "crude" death-rates.

The deaths registered in England and Wales during the year 1902 numbered 535,538, and were in the proportion of 16.2 per 1,000 of the population at all ages. Never since 1837, when civil registration was established, has the English death-rate been so low as this, the nearest approach to it having been in the year 1894, when the rate was 16.6.

During 1902 the births of 940,509 infants were registered, the rate being 28.5 per 1,000 persons living. This birth-rate was identical with that for 1901, but was 1.1 per 1,000 below the average in the ten years 1892–1901. In 1895 the birth-rate was 30.3, but since that date it has gradually decreased, the rate in 1901 and 1902 being the lowest on record. The seriously decreasing birth-rate is modifying the age-constitution of the population and consequently the rate of mortality.

It would be impossible to go further into details respecting the statistics contained in this most valuable Report. We may, however, observe that the deaths from small-pox registered in 1902 numbered 2,464, and were in the proportion of 75 per million living—the proportions in the four years immediately preceding having been respectively, 8, 5, 3, and 10 per million. In fact, the deaths from this fell disease were more numerous in 1902 than in any other year since 1885. Is not the hand of the "conscientious objector" seen in this ?

Another disappointing fact is that the deaths ascribed to cancer or "malignant disease" in the year under notice numbered 27,872, exceeding by 2,384 the average number in the previous ten years corrected for increase of population. The Registrar-General, commenting on these figures, finds some satisfaction in being able to record that, whilst the death-rate has continued to increase, the increase was less in 1902 than in 1901, notwithstanding the more precise classification now in vogue. We heartily join with him in the hope "that the cause of this distressing malady will ere long be discovered, and that thus its future ravages may at least be controlled."

An Appendix contains an abstract of the arrangements respecting registration of births, deaths, and marriages in the British Dominions beyond the seas. The abstract shows the conditions under which registration is effected, the periods covered by the records, the fees payable for searches and certificates, and the person with whom the records are deposited and to whom applications for searches and certificates should be addressed.

In conclusion, we would commend this admirable Report to all students of Vital Statistics, and especially to Medical Officers of Health throughout the country. Used aright it cannot fail to help them in their noble work—the Prevention of Disease.

J. W. M.

The Differential Diagnosis of Syphilitic and Non-Syphilitic Affections of the Skin, including Tropical Diseases. By GEORGE PERNET. London: Adlard & Son. 1904. Pp. 219.

No one can doubt the practical importance of the topics discussed in this book, which is an expansion of a paper read before the Medical Society of University College in 1900.

Dr. Pernet is a trained physician and pathologist, and has had a large experience as Assistant to the Skin Department of University College Hospital, so that his views and conclusions are justly entitled to respect.

The book is full of interesting points and of practical information, and on almost every page can be seen the imprint of the accurate observer and judicious critic. Of the soft sore the author remarks that it is uncommon in London, whereas in Tokio and North Africa it is common. The strepto-bacillus of Ducrey is generally admitted to be its efficient cause. Of hard chancres, he observes that it is not rare to see one or more hard sores about the pubes in Arabs owing to their habit of shaving these parts. The small wounds inflicted by the razor become infected by the virus. In accordance with the title of the book, differential diagnosis is exhaustively discussed, and, in cases of doubt or difficulty which now and then confront everyone, no better guide could be named than Dr. Pernet's book.

No less than three chapters are devoted to the differential diagnosis of secondary syphilides, and it would be difficult for anyone to indicate an omission of practical consequence.

Syphilis is the great mimic, and there is no escaping from occasional mistakes except by ample experience, guided at first by a competent teacher.

It is interesting to remember that salipyrin (salicylate of antipyrin) has given rise to a herpes-like eruption about the buccal mucous membrane and the glans penis, accompanied by erythematous patches on the hands and upper limbs.

In the discrimination of secondary and tertiary eruptions, we are glad to note that Dr. Pernet emphasises the value of "diascopy," or the glass pressure test, which is undoubtedly often of material assistance, especially in the common case, Lupus *versus* Syphilis. We find a thin watch glass the most convenient mode of applying pressure. Without its help it is almost impossible to decide whether a lupus spot is truly cured or not; for so long as a brownish-yellow spot appears underneath the watch glass, pressed firmly on the spot, we may be sure that the disease still lingers in an active form.

In connection with tertiary syphilis, the differential diagnosis between it and leprosy is fully considered. In doubtful cases the author recommends histological examination. A leprous nodule will abundantly yield the characteristic bacilli if the nodule is clamped by a pair of curved forceps, incised, and a film preparation made from the exuded fluid.

Medical men, whose sphere of practice may lie within the tropics, will read with interest the remarks upon yaws or framboesia.

When writing of congenital syphilis, Dr. Pernet refers to Colles' law, which, he thinks, has been impugned upon insufficient grounds. He believes in the truth of the conclusion arrived at by Colles—viz., that the mother of a congenitally syphilitic infant may suckle it with impunity. What is called Profeta's law—viz., that a healthy child born of a syphilitic mother is not susceptible of syphilitic infection—is quite another story. A somewhat surprising statement is made in regard to syphilitic iritis in children, from which we take leave to differ.

Dr. Pernet states that it has been shown that the pupils of infants do not respond readily to atropin or homatropin, so that the existence of adhesions must not be too precipitately inferred. On general grounds this appears unlikely, and an appeal to two of our best-informed oculists evoked the contrary opinion that the statement is devoid of foundation. A more important and, we believe, well-attested fact is that syphilis in children responds readily to mercury, and in the majority of cases runs a favourable course.

We can heartily recommend Dr. Pernet's valuable monograph to our readers.

W. G. S.

Asthma in Relation to the Nose. By ALEXANDER FRANCIS, M.B., B.C. Cantab. London: Adlard & Son. 1903.

THE bibliography of asthma is indeed extensive, but the work under review certainly deserves a foremost place. The author is not afraid of his opinion, and boldly states where he differs from that which, for want of a better expression, may be called the accepted opinion of the day, if indeed there is any. He takes up separately the various forms of asthma, such as gastric, nasal, renal, cardiac, bronchial, &c., and shows how nearly all these various forms, so different apparently in their onset and origin, can be brought under control and cured by proper nasal treatment. Some curious points are raised, such as that asthma in cases suffering from nasal polypi is most intractable, while those cases presenting marked gastric symptoms can be most speedily relieved by intra-nasal treatment. He has not much belief in the ordinary methods of nasal treatment, such as removal of spurs, &c., and states that in most of these cases while relief is given it is only temporary, whereas by adopting his method of cauterising the septal mucous membrane the irritability of the respiratory centre is markedly reduced. The book is one of interest to all; for what practitioner is there who does not number asthmatics among his patients, though the treatment will naturally be left in the hands of rhinologists?

A Manual of the Practice of Medicine. By FREDERICK TAYLOR, M.D., F.R.C.P.; Senior Physician to, and Lecturer on Medicine at, Guy's Hospital; Consulting Physician to the Evelina Hospital for Sick Children; President of the Clinical Society; Examiner in Medicine at the University of London; late Examiner in Medicine at the University of Durham and to the Royal College of Physicians, and in Materia Medica and Pharmaceutical Chemistry at the University of London. Seventh Edition. London: J. & A. Churchill. 1904. 8vo. Pp. xvi + 1065.

A TEXT-BOOK of which the author has, within the comparatively very short term of 14 years, been called upon to prepare a seventh edition, and of which a second issue of an Italian translation was published this year, has little to hope, and, we should say, nothing to fear, from the present (and future) expressions of opinion which may emanate from the minds and fingers of the enterprising reviewer. The biennial re-issue of "A Manual of the Practice of Medicine," continued up to the charmed number of seven, may be said to mark an epoch in the history of medical literature. The present volume represents a thorough revision of the last edition, with considerable additions and alterations. There are also quite a large number of the specially interesting subjects of the medicine of the present day now introduced for the first time; these include sleeping sickness and trypanomiasis, family periodic paralysis, diseases of the conus medullaris and cauda equina, diseases of the thymus gland, arsenical poisoning, infective arthritis, myelopathic albumosuria, and some of the rarer diseases of the skin. The "alterations and additions" specially affect the sections on influenza, malaria, dysentery, the examination of the nervous system, spinal scleroses, myoclonus, the treatment of phthisis, arterial degenerations, gastric disorders, diseases of the pancreas and of the blood, Glenard's disease, nephritis and diabetes.

The reviewer would, necessarily, soon sink into the bottomless abyss of cipherdom if he did not point out something which could be altered with advantage. In order to avert that fate we will just indicate one or two items which we take the liberty of suggesting for modification in the next issue of this manual. Under the head of measles we find (p. 65) a reference to the (early) diagnostic importance of "Filatow's or Koplik's spots." A description of these spots was given by the late Dr. Hilton Fagge before that of either of the above-named authors appeared. The section dealing with "chronic pneumonia (cirrhosis of the lung)" opens on page 489. The names of Fagge and Andrew Clark appear as authorities, but no reference is made to the fact that "cirrhosis of the lung" was first described and named by Sir Dominic Corrigan, of Dublin. To the same illustrious physician we owe the first description of the characteristic pulse of aortic regurgitation, with its four unmistakable features—suddenness of stroke, fulness of volume, rapidity and completeness of collapse, and infrequency of repetition. The "diseases of the œsophagus" are, of course, rapidly passed over, cancer being the only one which receives an approach at lengthened attention. The perusal reminded us forcibly of the changes of fashion which appear from time to time in the descriptions—not merely of the ætiology, but the actual position—of morbid growths. A century ago, the most frequent seat of cancer of the œsophagus was placed by "authorities" at the upper end; some time after the middle of the past century the favoured locality was found to have gravitated to the middle. When von Ziemssen's tremendous Cyclopædia (and its English version) appeared, Europe and America learned that by far the most frequent seat was at the inferior extremity! Now, in the hands of Dr. Taylor, we find that it has re-ascended to the middle. With this localisation we are led to agree by our own experience. Rindfleisch furnished an explanation of its comparative frequency there which should be better known than it seems to be. At the level of the bifurcation of the trachea, the œsophagus, being placed somewhat to the left of the middle line, lies in specially close contact with the left bronchus. So close is the juxtaposition that every bolus swallowed necessarily presses the anterior wall of the œsophagus against the cartilaginous rings of the air-pipe. The rings of the bronchus being complete, the large and imperfectly masticated morsels inevitably cause a great deal of friction and consequent irritation—far more than falls to the share of any other segment of the tube. The inference is obvious: it is the old story of the Irishman's short, black *dhudheen* and his epitheliomatous lower lip, in a new version.

The Dublin University Calendar for the Year 1904–1905, to which are added the Ordinary Papers set in the year 1903-04. Vol. I. Dublin: Hodges, Figgis & Co. 1904. 8vo. Pp. (66) + 416.

THE Editor, Mr. M. W. J. Fry, M.A., F.T.C.D., deserves our congratulations on the timely publication of this first instalment of the Dublin University Calendar for the current Academic year. The volume is considerably enlarged, containing 482 pages compared with 445 in the Calendar for 1903-1904.

Some important changes will be noted in this year's Calendar. At pages 68 to 71 will be found the regulations for the admission of women to "Degrees in the University of Trinity College, Dublin," including the Royal Letters Patent, received January 16, 1904, which provide that the Statutes of Trinity College shall be interpreted "in such a manner that women may obtain Degrees in the said University, all previous laws, ordinances, and interpretations notwithstanding." The Resolutions adopted by the Board of Trinity College on March 21, 1903, provide, *inter alia*, that women shall be admissible to the Medical School and to all prizes therein.

In the Regulations of the School of Physic the most notable alterations will be found under the headings "Diploma in Public Health" (pages 230 and 231), for which qualification a fee of £10 (to be paid to the Senior Proctor) will in future be required; and "Degree and Licence in Dental Science" (pages 231 to 234 inclusive). To obtain the Degree in Dental Science (*Magister Dentariæ Scientiæ*) candidates must have taken a degree in Arts. The Licence is awarded to duly qualified persons who have passed the Public Entrance Examination of Trinity College, Dublin.

No mention is made in the Calendar of the newly established

Normal Climatological Station of Trinity College, which has been in working order since January 1, 1904. This station cannot fail to be of use to Medical and Engineering Students, and should be brought under their notice officially.

RECENT WORKS ON DISEASES OF THE EYE.

Ophthalmological Anatomy, with some Illustrative Cases. By J. Herbert Fisher, F.R.C.S. Eng. London: Hodder & Stoughton. 1904. Pp. 188.

Amongst the numberless books on ophthalmic surgery that pass through the press each year, few are so welcome as Dr. Fisher's work on Ophthalmological Anatomy. It is well printed on beautiful paper, with lucid diagrams, and the simple, clear style in which it is written makes the reading of it a pleasure.

The author fears that ophthalmic science is, to some extent, hindered by the want of a clear anatomical picture in the minds of those who devote themselves to it, and has written this book in the hope of supplying a useful supplement to the student's text-book, which would prove a practical help to the clinical ophthalmologist.

The book is divided into two parts. Part I. is on Ophthalmological Anatomy proper, and includes chapters on "The Visual Pathways and Centres," the "Centres for Ocular Movements," "Cranial Nerves: their Nuclei, Course and Distribution," "The Cervical Sympathetic: the Lenticular Ganglion," "Cutaneous Nerve Areas of Head and Face: Cerebral Topography," "Ocular Movements and Muscles: Paralytic Squint and Concomitant Strabismus: Tenon's Capsule," "The Eyelids and Lacrimal Apparatus," "The Ophthalmic Blood Vessels and Intracranial Venous Sinuses," "The Orbit and its surrounding Air-cells: some Points in Development."

The second part consists of Illustrative Cases, of which there are 23. This, we consider a most valuable addition, as it gives a practical clinical value to the more purely anatomical facts contained in Part I., and shows the author regards his subject from a very practical standpoint. A good index completes this most thoroughly satisfactory addition to ophthalmological literature.

A Handbook of Ophthalmic Science and Practice. By HENRY E. JULER, F.R.C.S. Third Edition. Revised and Enlarged London: Smith, Elder & Co. 1904. Pp. 733.

IT is just 20 years since we reviewed the first edition of Mr. Juler's book, consequently it will not be necessary for us to give a very lengthy review of the present edition.

Of the many text-books on the subject that have appeared since 1884 not very many have surpassed Mr. Juler's in general usefulness.

It is not, however, quite complete enough for some, whilst for the average student it has grown too bulky. Nor is Mr. Juler always quite up to date in his information. On page 34, in describing the grafting of mucous membrane for the cure of entropion he recommends the use of a "horn spatula," and makes his wound gape by the aid of sutures attached to the brow; but he makes no mention of lid clamps, which so greatly facilitate the operation and render it practically bloodless.

We find no mention of argyrol in the treatment of any form of conjunctivitis and, stranger still, no mention of absolute alcohol in the treatment of dendritic keratitis, although, in the experience of many ophthalmologists, it is regarded as almost a specific.

In spite, however, of many omissions and some other defects the book is, on the whole, a safe guide to the subjects on which it treats. It is well printed, and abundantly illustrated with diagrams and coloured drawings.

Text-book of Diseases of the Eye, for Students and Practitioners of Medicine. By HOWARD F. HANSELL, M.D., and WILLIAM M. SWEET, M.D., with Chapters by CHRISTIAN R. HOLMES, M.D.; CASEY A. WOOD, M.D., and WENDELL REBER, M.D. With 256 Illustrations and Coloured Plates. London: Rebman, Limited. Pp. 532.

THE authors, in their preface, state that in the preparation of this book the object has been to present to the student of ophthalmology the subject-matter tersely, practically, and comprehensively. They treat briefly purely scientific and theoretical sub-divisions, and emphasise the common affections and traumatisms. Consequently they have allotted less space than usual to refraction, to the rarer external diseases of the eye, and to affections of the posterior segment of the globe which have not proved amenable to treatment. The value of the book has been enhanced by the contribution of special chapters on "Diseases of the Lacrimal Apparatus, Orbit, and Cavities Accessory to the Orbit," by Holmes, of Cincinnati; "Ocular Symptoms in General Disease," by Casey A. Wood, of Chicago; and "The Pupil in Health and Disease," by Wendell Reber, of Philadelphia.

On page 79 the rather surprising statement is made that "the refraction of the crystalline lens in high myopia equals that of a concave glass of about 17D when that glass is placed one half inch in front of the eye."

On page 224 the description of "keratitis filamentosa" is entirely inadequate, and no treatment whatever is suggested.

On page 225 the picture of Hutchinson teeth is entirely wrong and misleading.

We fear that in their endeavour to make the descriptions terse, the authors have in some cases also made them incomprehensible to the student. The work is, on the whole, however, pretty much what they state in their preface, and deserves a high place amongst modern text-books.

The Doctor's Leisure Hour: Facts and Fancies of Interest to the Doctor and his Patient. [The Doctor's Recreation Series. Vol. I.] CHARLES WELLS MOULTON, General Editor. Arranged by PORTER DAVIES, M.D. 1904. Chicago: The Saalfield Publishing Co.

A TRUE friend of the mentally worried and overstrung—while physically overworked—doctor has come to his aid with a refreshing intellectual "pick-me-up" in the shape of an exquisitely artistic volume, bound and printed in the most perfect taste—on large paper, too, so dear to the heart of the bibliophile, which makes what would have been, in the course of ordinary manipulation, a moderate octavo up to the dimensions of a small folio. The paper is *thick* as well as *large*, which adds a further attraction to the over-read connoisseur. Dr. Davies tells us in his preface that "this volume is the product of a *doctor's leisure hour*, who has been engaged in general practice for nearly a quarter-century, beginning as the student, graduating as the young doctor, and is at present the professor himself." It contains 352 pages—which suggests one for every week-day in the year—and a few over, as some matter is, of course, carried forward. These pages contain some of the cleverest things which have been said and written about doctors and doctoring. Some are, we presume, original. The general collection represents matter from all the best available sources—from our own Samuel Lover's ultra-Hibernian Handy-Andy to the unimpeachable generalisations of Oliver Wendell Holmes. The compilation has evidently been made for the truly benevolent purpose of lightening the mental burden of many a suffering brother practitioner. For this meritorious act we offer him, in the names of them and ourselves, our most cordial and heartfelt thanks. We also append our congratulations on the success of his efforts.

The beautiful volume before us has enabled us to laugh off a good part of the effects of the seething atmosphere of the more than usually raging dog-days of this season of 1904!

Clinical Diagnostic Bacteriology, including Serum Diagnosis and Cytodiagnosis. By Alfred C. Coles, M.D., D.Sc., F.R.S. Edin. London: Churchill. 1904. Pp. 237.

This work is produced, the author tells us, to assist practitioners who have not had the opportunity of studying in a laboratory to gain some of the advantages to be derived from a bacteriological examination. Some of the questions which such investigators will ask are: "How shall we obtain the material? How shall it be prepared for microscopic examination? What are the chief characteristics of the organism in question? With what may it most easily be confused? How can it be distinguished, and what inferences can be drawn from such an examination which will help us in making a diagnosis, prognosis, or in carrying out treatment?" Answers to these questions, stated clearly and concisely, will be found in the work. The methods of making films, fixing and staining, are first given. A section on Gram's method and its modifications follows. This is succeeded by a highly interesting and valuable research by the author on the acid-fast bacteria and the means by which they may be distinguished from the tubercle bacillus. To this we shall refer again in a moment. We next find chapters describing the examination of sputum, urine, and fæces for tubercle bacilli, and giving directions for the detection of the gonococcus, the bacillus of soft chancre described by Ducey and Unna, the pneumobacillus of Friedländer, and the pneumococcus of Frænkel, the influenza bacillus, the meningococcus, the diphtheria and the pseudo-diphtheria bacillus, bacteria in pus, the bacillus of plague, actinomycosis, the anthrax bacillus, the spirillum of relapsing fever, and parasitic fungi affecting the skin and hair. Finally, we have a section on serum diagnosis and one on cytodiagnosis.

It will be seen that most of the organisms with which the practitioner will have to deal receive notice, and many of them are figured in the two well-executed coloured plates with which the text is illustrated. "Such bacteriological examinations as require very elaborate investigations—*e.g.*, cholera, glanders, &c. are entirely omitted."

Returning to the important investigation on the acid-fast bacteria, the author points out the gradually increasing number of bacteria which are known to possess, in common with the organisms of tubercle and of leprosy, the property of holding their colour when treated by acid. This is of the utmost importance in the bacteriological diagnosis of tubercle, unquestionably the most frequent micro-organismal investigation the practitioner has to make. Bulloch thinks that the discovery of these acid-fast bacteria has "given a rude shake to the belief that the microscopical examination of the tubercle bacillus is in itself sufficient to establish a diagnosis of tuberculosis"; and Dr. Coles writes—"Even in pure culture I can most emphatically say that many of these bacilli—not all—are with the finest lens indistinguishable from the genuine organism of tuberculosis." As a result of examination with a power of 2,250 diameters, and by the same methods of staining, "I can find some difference between the *majority* of the pseudo and genuine tubercle bacilli; but here and there are organisms which, as far as I can see, it is impossible to distinguish. If this difficulty exists when we are dealing with a more or less pure culture, and can compare them under exactly the same conditions, it is evident that an occasional acid-fast bacillus in urine, sputum, or milk is, in many cases, absolutely indistinguishable from Koch's bacillus." It was through errors of this kind that Dr. Coles was led to make his investigations. His work is a valuable contribution to practical bacteriology, and deserves careful study by everyone who stains sputum or urine for the detection of tubercle bacilli. The following acid-fast organisms are described, their morphological differences given, together with the results of the inquiry into their power of resisting acids, alcohol, &c.:—The bacillus of tuberculosis and its modifications, the tubercle bacillus of birds and cold-blooded animals, the bacillus of leprosy, the bacillus of smegma, the bacillus of Timothy grass (Moeller), the grass ii bacillus of Moeller, the mist or dung bacillus (Moeller), the butter bacillus of Petri-Rabinowitsch and Korn, the forms of acid-fast streptothrix of Leishman and Birt, of Eppinger and Nocard.

In all these organisms the acid-resisting property depends on the presence of a waxy substance in the body of the bacillus. The pseudo-tubercle bacilli resemble the true bacillus not only in resisting acid, but by producing in many cases when inoculated into animals nodular diseases in which giant cells, &c., are found. They are all probably members of the actinomycotic group. The diagnosis must be made by the fact that the true tubercle bacillus is much more resistant to acid than are the pseudo-organisms. The former can resist 25 per cent. sulphuric acid for at least, in some cases, seventy-two hours, while all the pseudo-tubercle bacilli are decolorised at the end of sixteen hours, and many before that time. The tubercle bacillus will resist decolorisation by Pappenheim's solution—1 part corallin (rosolic acid) in 100 parts of absolute alcohol, to which methylene blue is added to saturation; this mixture is further treated with 20 parts of glycerine—for at least fifty-two hours, but all the pseudo-tubercle bacilli are decolorised at the end of four hours. Detailed rules are given for the microscopic examination, using as a decoloriser either Pappenheim's solution or 25 per cent. sulphuric acid. If these methods should still leave us in uncertainty there are two other methods to which we should have recourse: 1. Incubation at 30° C. of the suspected matter mixed with bouillon. If after two or three days there is a visible increase of acid-fast organisms it is certain that they are not the true tubercle bacillus, which requires a higher temperature and a longer time for its growth. 2. Inoculation of a susceptible animal. From the whole investigation it follows conclusively, as the author says, "that the usually described decolorising or staining methods for differentiating the pseudo (especially the smegma bacillus) from the genuine tubercle bacillus are absolutely fallacious."

The Brain Book and How to Read It. Being an Exposition of Phrenology in Theory and Practice. By A. C. Donovan. London: Jarrold & Sons. 1904. 8vo. Pp. 519.

We entirely agree with the author of this volume where he tells his readers (p. 21) that "from the very outset the study of Phrenology, properly conducted, is the source of much enjoyment." The study of the brain is indeed a fascinating one; and, in the present age, when every individual is educated and every educated person—male or female—rejoices in the possession of a brain and the consciousness that the best furniture for its decoration and the most unlimited supply of nutrition suitable for the promotion of its maximum growth and development lie within fairly easy reach, it may safely be affirmed of the total male population that every voter remains unsatisfied till he has furnished his own cerebral organ to his own special taste. And every woman, too—in every civilised country—glories in the possession of a brain and in the ability to display the powers and possibilities of its special function—the intellectual—especially if she belong to the type known as "*the New.*" Accordingly, it is a great (and worthy) source of self-congratulation to us, in this our enlightened Twentieth Century, to feel that our science of brain and mind has of recent years come to rest upon a scientifically solid foundation of physical knowledge. Although, in the language of the talented author of the *Breitmann Ballads,* the "mind is the result of food," in the last resort, yet there are so many interesting and intricate items of physical fact involved in the various stages which have to be passed from the original sowing of the wheat and the impregnation of the bovine ovum to the ingestion of the bread and beef which are responsible for the genesis of the materials of a *Hamlet* or a *Faust,* or the scientific revelations of a Newton or a Pasteur, that the most self-appreciating democrat of the twentieth century can find as much to admire in the inner workings of the organ of mind as did the most accomplished peripatetic metaphysician, or the most dreamy mediæval mystic. And true it is that the first exposure of the solid bed-rock of physical science on which our twentieth-century knowledge and teaching in connection with the brain and its functions now rest, and the laying thereon of the earliest reliable contributions of anatomical and physiological fact which formed the original foundation of the colossal superstructure of which medical science is now so justly proud, were the work of the enthusiastic pioneer in cerebral localisation—Franz Joseph Gall. The great work of this physiologist on the structure and functions of the nervous system contains revelations for which the medical minds of his generation were not quite prepared, and his reputation has suffered in subsequent times from the fact that he is usually referred to—in phrase and fable—as the "founder of the *science* of phrenology." Of course, *phrenology* "as she is taught" and practised by the professional "phrenologist" has not received, and most assuredly never will receive, recognition in the eyes of scientific medical men. But the observations of Gall, as originally made by him, are of a tone and temper different from those of his *mis*-representatives of succeeding generations. The enthusiasm which perhaps sometimes led him to overstep the bounds of cool scientific calculation secured him the unwearying application which is essential for the collection of a large amount of original material. His localisation of the bump of veneration—probably the earliest—possesses a history more instructive than religiously edifying. For years he went regularly to Church every Sunday, and occupied a seat in the front row of the gallery—not, however, to meditate and pray, but to study heads. Long experience demonstrated that the worshippers who were most punctual and ardent in their devotions presented vertical elevations of the cranium. Hence "*Veneration*"! The story of the fixation of *Destructiveness* would be more amusing, if not rather gruesome. The principal items of evidence were three: (1) A young man who had a promising career in business open to him could procure no mental rest till he became a butcher, for his keenest enjoyment lay in the spilling of blood and the extinction of life! (2) A metropolitan citizen of good position and prospects was possessed of so insatiable an appetite for the infliction of pain and destruction of life that, when the post of public executioner became vacant, he at once threw up his other pursuits and became a candidate—the successful one!! (3) An ingenuous youth, whose career had been under observation from childhood to adult life, had always enjoyed a reputation for cruelty of a type which was positively demoniacal. He always dismembered insects when opportunity offered; maimed and tortured quadrupeds and birds, whenever and wherever it could be done with impunity; and never missed a chance of inflicting pain and physical injury on a schoolmate or a play-fellow. When the time arrived for this hopeful youth to choose a career in life, nothing would satisfy him but to become a surgeon!!! All three enthusiasts in "Schädenfreude"—the butcher, the hangman, and the surgeon—were naturally decorated with cranial protuberances in the locality above and behind the external auditory meatus; facts which led Dr. Gall to localise the quality of destructiveness in that region of the brain. The bumps of the surgeon are said to have been the most prominent of all; but it must be remembered that he lived in the præ-anæsthetic era.

Mr. Donovan's volume is artistically bound, well printed, and nicely illustrated. He appears to believe in phrenology—as the term is popularly applied—and gives plausible reasons for the faith that is in him, in accordance with the practice of the other "professors" of the art. And he has a special claim to the hearing of medical and scientific men, "being in possession of the manuscripts and note-books of his father, the late Dr. C. Donovan, who commenced his study of phrenology under Dr. Spurzheim, whose lectures in London he attended," and who wrote in one of those same note-books—"After fourteen years of what may be called flirtation with phrenology, I ventured to attempt the public practice of the science"—and so on. For further information regarding Mr. Donovan's volume we would refer the reader to the original imprint. For ourselves, we confess to some belief in the original teachings of Gall.

Le Radium. Published by Masson et Cie, Paris. No. 1.
15th July, 1904.

THE above journal is devoted to the study of radio-activity and the practical uses to which this phenomenon can be applied. "Le Radium" is fortunate in having among its editorial staff such well-known scientists as d'Arsonval, H. Becquerel, P. Curie, Oudin, Rutherford, and many others. It is well got up, and contains 32 pages of closely-printed matter. There are several photographs and illustrations, which explain apparatus used, and show the results obtained in experimental and therapeutic investigations.

In the first number of this journal the article "Radio-activité des Eaux Minérales," by A. Laborde, M. Curie's assistant, describes a method employed by himself and M. Curie for determining the radio-activity of gases in springs.

"Le rayonnement du Radium," by L. Matout, is principally devoted to the consideration of the effects of a magnetic field on the rays of radium, and the effects produced by the rays passed through various screens on different fluorescent substances.

Dr. A. Béclère discusses X-ray therapy, and describes a case of epithelioma and of sarcoma cured by that means.

The remaining articles are shorter, and deal with Apparatus, Radio-therapy, Photo-chemistry and Photography, and a new method of preparing Barium Platinocyanide.

"Le Radium" is published monthly, and, as will be seen, contains much valuable and interesting information in its pages. Indeed, if the excellence of its first number is maintained in succeeding issues "Le Radium" will be indispensable to every serious worker in those branches of science which come under its scope.

The Journal of the Röntgen Society. Edited by J. H. Gardiner, F.C.S. Printed and published for the Röntgen Society by Wertheimer, Lea & Co., Finsbury, E.C. No. 1. Vol. I. July, 1904.

This journal has for its object the study and discussion of X-rays and allied phenomena in their relation to medicine, the arts, and sciences. It contains reports of the meetings and papers read before the Society, with notes and abstracts on articles published elsewhere dealing with this subject. In the first number there are 24 well-printed pages, with numerous illustrations and four plates, reproducing human X-ray photographs. Among the Notes and Extracts will be found short accounts of recent work on Radium, Thorium, Phosphorescent Materials, X-ray Technique, &c. Rutherford's work on "Radio-activity" is reviewed.

Judging by the communications which in the past have been made before the Society, and by the distinguished names of those who have contributed them, the journal will be of real usefulness to those who are engaged in X-ray work, whether as medical men or otherwise.

The number before us contains an article—"The Röntgen Society: its Past Work and Future Prospects"—by J. J. Vezey, F.R.M.S. This article points out the peculiar advantages the medical profession derives from the scientific interest which the lay members of the Society take in furthering our knowledge in X-rays, &c. The scope of the journal is further indicated by the title of the paper, "Experiments to Determine the Effects of Form and Winding on Resonance Phenomena."

"The Journal of the Röntgen Society" is issued bi-monthly during the working session at four shillings per number, or sixteen shillings per annum, to non-members. It is edited with the co-operation of such authorities as J. Mackenzie Davidson, M.B.; Professor Herbert Jackson, F.I.C., F.C.S.; and others well known in connection with X-ray work.

The Cancer Problem in a Nutshell. By ROBERT BELL, M.D., F.F.P.S., &c.; Late Senior Physician to the Glasgow Hospital for Women; Author of "Cancer: Its Cause and Treatment without Operation," "Sterility and its Treatment," "Woman in Health and Sickness," "Chloroform and its Safe Administration," "Influenza," &c. Crown 8vo. Pp. 39. London: Baillière, Tindall & Cox. 1904.

IN the preface to this brochure the author tells us that it "is published in the hope that it will prove to be the means of encouraging the general practitioner to treat his cases of cancer by therapeutic measures, and so protest against the employment of the knife, which never succeeds in giving permanent relief, but, on the contrary, more frequently adds to the patient's suffering, and shortens her life." The penultimate monosyllable of this quotation tends to prove that Dr. Bell applies his methods to the relief and cure of the cancer of female patients exclusively. He has come to despise the use of the microscope in cancer, even as a mere aid to diagnosis. (We have heard a corresponding opinion enunciated by experienced senior surgeons before now.) Cancer is a disease of nutrition. Dr. Bell's "friend, Dr. Lorand of Carlsbad, has ascertained that cancer has in many instances been found associated with atrophy of the thyroid." Dr. Bell considers of great significance "the coincidence that in the cancerous diathesis there is invariably present in the blood one particular micro-organism which would appear to exercise an important influence upon the foreign elements which have been admitted to the blood-stream, and is invariably present when cancer has manifested itself. I refer to saccharomyces." He concludes that "the presence of uric acid in the blood when it is thus contaminated constitutes a powerful factor as a pathogenic agent . . . . whatever be its mode of action, it would appear to exercise its influence by first of all producing a debilitating effect upon the thyroid." The thyroid "is the thing, wherewith we'll catch the" above-mentioned organism. The hooking process may be effectively carried out by: thyrocol plus salicylate of sodium—*ter in die.*

Studies from Institute for Medical Research, Federated Malay States. Vol. II. No. 2. On the Classification and Pathology of Beri-Beri. By HAMILTON WRIGHT, M.D. London: John Bale, Sons, & Danielsson. December, 1903. Pp. 74. Printed by authority of the Resident-General, F. M. S.

IN this valuable paper Dr. Wright continues his work on Beri-Beri as observed by him in the Malay States. He first recapitulates the results at which he arrived in former papers, and again insists on the fact that the paralytic condition which has formed the principal subject of study in this disease is only a residual condition, bearing the same relation to beri-beri as diphtheritic paralysis does to diphtheria. The organism to which beri-beri is due is not yet certainly determined; its special habitat is not any particular food, such as rice or fish, but it may be ingested in any kind of food or drink. It multiplies in the stomach and intestines, chiefly in the duodenum, and there produces a toxin which, being absorbed, poisons certain afferent and efferent neurons to different extents and to different degrees, and thus gives rise to a group of symptoms which can be classified as acute pernicious, acute, and subacute beri-beri. The period of incubation of the disease is from seven to fourteen days; the active stage of the organism is from two to six weeks, and the residual paralysis may remain long after the virus is eliminated.

The author discusses the classification and pathology of the disease, and gives details of the symptoms and *post-mortem* appearances observed in many cases of each of the classes. All his observations tend to support his contention that beri-beri is an acute infectious disease having a definite primary lesion in the gastro-enteritis which he has described.

The following is the classification proposed:—

"1. *Acute Pernicious Beri-Beri*, in which the onset is sudden, with more or less severe symptoms of gastro-duodenal irritation and cardiac paralysis. There may be varying degrees of pulmonary, vaso-motor and sensori-motor paresis. On first examining a case of this class it may generally be predicted that death will shortly occur.

"2. *Acute Beri-Beri*, in which the onset is sudden, although never so sudden as in acute pernicious beri-beri, with more or less noticeable symptoms of gastro-duodenal irritation and concomitant vaso-motor and sensori-motor paresis. The heart generally gives evidence of having become involved, but one cannot, as in acute pernicious beri-beri, predict with surety on a first examination that the case will succumb within a few hours, or even a few days.

"3. *Subacute Beri-Beri*, in which the onset of the disease is more insidious than in either of the above classes of cases; in which the symptoms of gastro-duodenal irritation may escape notice, and in which the concomitant sensori-motor and vaso-motor paresis may be so slight as to involve only one or two movements, a few areas of sensation and the vascular supply to the front of the legs. The heart, so far as clinical observation is concerned, appears to escape in this class of cases. *Post-mortem* evidence is submitted which indicates that even in subacute beri-beri a certain number of vagal cardiac fibres are affected by the toxin.

"4. *Beri-Beric Residual Paralysis or Neuritis,* or the disease as it appears after the symptoms of gastro-duodenal irritation have disappeared, and after the causal organism and its toxin have accomplished their work and been eliminated."

A clinical summary is then given of each of these classes, followed by a pathological summary. These are succeeded by a number of illustrative cases. In some of the acute pernicious cases the whole duration of the illness was very short, in one instance only seventy-two hours. In all the cases the degree to which the heart is affected is remarkable, and is one of the many features in which beri-beri resembles diphtheria.

The description given by the author of his pathological researches, a good deal of which was done in the laboratory of the Johns Hopkins University, is very valuable, demonstrating the changes both in the primary intestinal lesion and in the nerve cells in the different classes of cases. Three good plates illustrate the text.

On the whole this paper is of great interest and value. Although, as is admitted, our acquaintance with beri-beri is not yet sufficiently complete for a finished monograph on the subject, everyone will acknowledge that the researches of Dr. Wright have materially extended our knowledge of the disease, and have introduced order into many regions where previously nothing but disorder reigned.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By H. T. Bewley; M.D.; Physician to the Adelaide Hospital, Dublin.

(*Continued from page 290.*)

V. INTRAVENOUS INJECTIONS IN SEPTICÆMIA.
VI. ON SPASMODIC ASTHMA.
VII. A SIMPLE METHOD FOR OBTAINING SPUTUM IN CHILDREN.
VIII. AMYL NITRITE IN HÆMOPTYSIS.
IX. THE EFFECTS OF TYPHOID FEVER ON THE HEART.
X. THE TREATMENT OF ENURESIS BY INJECTIONS.
XI. ON SEA-SICKNESS.
XII. THE OPEN-AIR TREATMENT OF BRONCHO-PNEUMONIA.

V. INTRAVENOUS INJECTIONS IN SEPTICÆMIA.

Formalin Intravenously in Blood Poisoning.—Barrows (*Merck's Archives*, Feb., 1903) reported a case of acute septicæmia, due to the absorption of septic products in the uterus. Blood cultures showed the presence of streptococci; the usual routine of douching and curetting was carried out, but the patient's condition was not improved. The urine showed the presence of albumin; the temperature was 108° F., the pulse 160, and respirations 38. An injection of 500 c.c. (17 oz.) of a 1 to 5,000 aqueous solution of formalin was given in the right arm. The temperature steadily fell, until at the end of six hours it had dropped to 101°; it then rose again and another dose of 750 c.c. (25 oz.) was injected into the left arm. A slight chill followed this injection, but 12 hours later the temperature had reached normal. Waitzfelder also reported a case; but he was inclined to think the drop in the temperature was due to other reasons. Le Baner reported a case of streptococcus infection from a wound in the head, in which the use of formalin injections failed to check the progress of the disease.—*Internat. Med. Mag.*, Sept., 1903.

Intravenous Collargolum Injections in Septic Affections.—Dr. George Tucker Harrison reports a case of pyæmia following criminal abortion which, when first seen, had a weak pulse, remittent temperature, effusion in the right knee-joint, and a gluteal abscess. After the first injection of collargolum, in twenty-four hours the pulse and temperature were nearer to the normal and the general condition was much better. Two more injections were given during the following three weeks, but the fever continued because of an abscess which developed in the right thigh. This was incised, drained, irrigated, and dressed. On the following day not a drop of pus was present, and recovery rapidly ensued. The author remarks this as being unusual in such cases, and reports a case of puerperal sepsis, and, in conclusion, states that he has seen no such brilliant recoveries as those following the use of collargolum.—*Amer. Jour. of Med. Sci.*, May, 1904.

VI. ON SPASMODIC ASTHMA.

Dr. Wilkinson (Manchester) considers asthma to be a peculiar nerve reflex associated with the respiratory tract. The sensitive area of surface and the afferent nerve vary in different cases, but he believes that, in the vast majority of cases, the receptive surface will be found in the respiratory tract.

He believes that most cases have a definite exciting cause, the discovery of which is essential to cure. This cause may be gross and palpable or of extreme tenuity ; it may be found in, on, or outside the body. When the irritant enters with the air, he believes the asthmatic reflex to be a protective measure. By sneezing, offending particles are expelled. By increased secretions, microscopic particles and germs may be caught on the moist surfaces, and then washed out. In the case of extremely far-flying particles and gaseous irritants there is a reflex contraction of the minute bronchial tubes, an attempt to close the entrance to the air sacs.

The aerial irritants are usually such as do no harm to the average person. Pollen will produce "hay asthma," especially the pollen of *Anthoxanthum adoratum*. In South

Australia there is an epidemic in Spring of " dandelion fever," which appears to be due to the pollen of a yellow flower imported from Cape Colony, which looks like a small sunflower. The more gross the irritant the more likely it is to be caught near the entrance of the respiratory tract—*i.e.*, in the nose and upper air passages—and sneezing and " tearing " are the result. The more gross the irritant the less likely is one to have the typical bronchial spasm as the initial phenomenon. In some people flower odours and plant emanations, quite apart from pollen grains and dust, cause true asthma. A lady of his acquaintance is sensitive to cut flowers, and when paying visits can hardly speak if there are cut flowers in the room. Other similar cases are described.

Animal emanations also cause asthma. Every animal is surrounded by its own atmosphere. Just as a dog responds to the rat atmosphere, and the cat to the mouse atmosphere, so some asthmatics, without the olfactory accompaniment, become a perfect test for cats and certain other animals.

Several illustrative cases are recorded at length. A mechanic, aged twenty-four, developed asthma when in the presence of a cat. A doctor suffered from time to time for many years in a similar manner before the cause was discovered. A chemist, aged forty-three, had been subject for 25 years to asthma, which attacked him whenever he was in the room with canaries or other birds. Many years had elapsed before the cause of his ailment was discovered.

As regards treatment, apart from the discovery of the cause, he recommends in the acute attacks the burning of nitre paper and the use of iodide of potassium and of belladonna ; and in the intervals between the attacks he has found much good done by a prolonged course of arsenic—5 minims of Fowler's solution three times a day, continued for some months, with occasional intermissions—and iodide of potassium.—*Med. Chronicle*, Jan., 1904.

VII. A SIMPLE METHOD FOR OBTAINING SPUTUM IN CHILDREN.

Leonard Findlay, of Glasgow (*Achives of Pediatrics*, Feb., 1904, p. 126), referring to the difficulty experienced in obtaining specimens of sputum from young children, describes a method which has been in use for years in the French hospitals, but which he has not found described in any English work. It consists in irritating the pharynx, and especially the epiglottis, with the forefinger wrapped with a piece of gauze: cough is thus excited, and any expectoration that is coughed up is swept out of the mouth by the finger before it has time to be swallowed. The quantity thus obtained varies, but, as a rule, is sufficient for bacteriological examination. Several attempts may be required, but even in children as young as six months sufficient has been obtained on which to found a diagnosis. This method he has practised as a routine measure for nine months in the Royal Hospital for Sick Children, Glasgow, and with very gratifying results. Many cases of not very well-marked tuberculosis of the lungs were diagnosticated early, even on the day of admission to the hospital, and with only one exception no case of pulmonary tuberculosis went to *post-mortem* examination without the tubercle bacillus having been found in the sputum at some time. In cases of meningitis, also, supervening upon local pulmonary disease, in which there was a doubt as to its being tuberculous or pneumococcic in origin, the finding of the tubercle bacillus in the expectoration removed in the manner described cleared up the diagnosis.—*Amer. Jour. of Med. Sci.*, May, 1904.

VIII. AMYL NITRITE IN HÆMOPTYSIS.

Francis Hare finds that inhalations of amyl nitrite instantaneously arrest hæmoptysis. He has tested the action in five cases, one of mitral obstruction and four of phthisis. In every case the inhalation proved successful, and the hæmorrhage stopped at once. He thinks it acts as follows:—Normally, effusion of blood irritates the lung tissue, causing coughing. The strain of coughing raises the blood pressure, inducing fresh bleeding. In this way a vicious circle is maintained, till eventually the loss of blood becomes so great that the exertion of coughing no longer causes a marked rise of pressure. Then the bleeding ceases. Amyl nitrite, by dilating the vessels, accomplishes the same effect without the further loss of blood. It is similar in its action to the old plan of treating bleeding by venesection.—*Austral. Med.*

Gaz., Melbourne, 1904, Feb. 20., and *Edin. Med. Jour.*, July, 1904.

IX. THE EFFECTS OF TYPHOID FEVER ON THE HEART.

From a study of the condition of the heart and vessels in 183 individuals who have passed through typhoid fever at the Johns Hopkins Hospital within the last thirteen years, Thayer has come to the following conclusions :—

1. The average systolic blood pressure in these old typhoids was appreciably higher than in control observations upon healthy individuals.
2. The higher average of the blood pressure was constant in every decade.
3. In many instances among the old typhoids the blood pressure exceeded appreciably the limits of what is usually regarded as normal.
4. The radial arteries in the old typhoids were palpable in a proportion nearly three times as great as that found in control observations upon supposedly healthy individuals who had never had the disease.
5. The average size of the heart was greater among the old typhoids than in similar cases admitted to hospital who had never had typhoid.

Thus it would appear that, from the point of view of the heart and arteries, a man who has had typhoid is likely to be more aged than one who has not had the disease.—*Amer. Jour. of Med. Sci.*, March, 1904.

X. TREATMENT OF NOCTURNAL INCONTINENCE OF URINE BY RETRO-RECTAL INJECTIONS OF SALINE SOLUTION.

Patel (*Ann. d. mal. d. org. génito-urin.*, Paris, January, 1904) records his experience of two cases of nocturnal incontinence, treated in Jaboulay's clinic by the injection of saline solution into the retro-rectal cellular tissue. The first case was that of a girl, aged twenty-five, who had suffered from infancy. During the day her urination was normal, but during the night she passed water involuntarily. There was no anatomical or physiological explanation of the condition forthcoming. All the ordinary methods of treatment failed to give relief. A hundred grammes of saline solution were injected into the retro-rectal space, and the following night the patient did not pass water in bed. The next night, however, she did, and a second injection was made, and since then (six months ago) the incontinence has entirely disappeared. The needle of the syringe is introduced at the tip of the coccyx, or to one side of it, and passed vertically upwards. A finger in the rectum guides the needle as it is passed in, and prevents perforation of the rectal wall. The fluid is slowly introduced. No anæsthetic is required.

The second case was also that of a girl, aged twenty, who suffered in the same way. After the first injection the incontinence disappeared for three days; after the second, for six days. The third injection (200 grms.) was followed by thirty days' continence, and after the fourth (also 200 grms.) there has been no return of incontinence. The treatment is based on the theory that the condition is due to some functional disturbance of the hypogastric plexus or its branches, which the author looks upon as "the brain of the pelvic viscera." The mode of action is not quite clear, but the fluid would appear to modify the function of the plexus in some way. Beneficial results have also been obtained from these injections in cases of intractable sciatica and in neuralgia of the cauda equina.—*Ed. Med. Jour.*, March, 1904.

Epidural Injection in Enuresis.—Kapsammer (*Wiener klin. Wochenschrift*, 1903, Nos. 29 and 30) made 300 injections without a single accident. He used at first 5 cm. of cocaïn solution (one-half of 1 per cent.), but subsequently found that normal saline solution produced the same result. The needle is inserted at the junction of the coccyx and sacrum, so that the solution reached the roots of the cauda equina without entering the dural sac. Usually one injection is sufficient. The result of the trauma is to stimulate the *nervi erigentes* and to restore the tone of the vesical sphincter.—*Amer. Jour. of Med Sci.*, Feb., 1904.

XI. SEA-SICKNESS; ÆTIOLOGY AND PROPHYLAXIS.

Sea-sickness (according to E. K. Shelmerdine, *American Medicine*, Jan. 2, 1904, p. 25) has three causative factors—(1) an excessive and irregular contraction of the body muscles, including those of the abdomen and diaphragm, due to temporary loss of equilibrium; (2) excess of bile secretion, this bile being forced by the spasmodic muscular contraction back into the stomach; (3) a mental state which makes every muscular action, normally unconscious, into an active movement. Treatment, or rather prophylaxis, should be started several days before the voyage is commenced, and all the above defects should be treated. Podophyllin gr. $\frac{1}{20}$ should be given four times daily. Calomel should be used a few times to clear the bowels, and sodium bromide five grains should be given twice daily for five days before embarkation, and should be continued till the patient has acquired "sea-legs." The bowels must be kept loose till all danger of nausea has passed away.—*Med. Chron.*, March, 1904.

XII. THE OPEN-AIR TREATMENT OF BRONCHO-PNEUMONIA.

Dr. Kerr (Superintendent, Edinburgh City Hospital) calls attention to the high mortality among poor children affected with whooping-cough, the death-rate both in Edinburgh and Glasgow being about 18 per cent. The principal cause of death is broncho-pneumonia. Of the children in whom this complication occurred, 71 per cent. died.

In view of this mortality and of the inefficiency of all the drugs he tried, Dr. Kerr decided to place the worst cases in the open-air for six hours daily. This procedure was followed by marked improvement. The whoops, indeed, were unaltered, but the patients' strength increased; they slept better, and they took food ravenously. In winter he keeps the children in a ward from which the window-sashes have been removed; a stove in the middle of the room warms it somewhat.

The mortality under these circumstances was much less than in the case of the children treated wholly in the wards. Among those who were in the open air daily the percentage of deaths was 30, and among those treated in the ward in which the windows were permanently open the figure was 42.

SPECIAL REPORT ON THE

PROGRESS OF NEUROLOGY AND PSYCHIATRY.

By W. R. Dawson, M.D., F.R.C.P.I.; Medical Superintendent, Farnham House, Finglas; Hon. Secretary, Irish Division of the Medico-Psychological Association.

Transverse Lesions of the Spinal Cord.—Collier (*Brain*, Spring, 1904, p. 38) gives the results of his study of a number of cases of total transverse lesion of the spinal cord in man, due to fracture, dislocation, tumours, and other causes. When the lesion is sudden there is flaccid paralysis, loss of the deep reflexes (certainly after a few minutes), anæsthesia, speedy lowering of faradaic excitability, loss of tone in the sphincters, and rapid muscular wasting. When on the other hand the lesion is more gradual, the symptoms appear in the following order:—Spastic paralysis, "equilibratory anæsthesia," sphincter paralysis, anæsthesia to temperature and to pain, anæsthesia to touch, flaccidity and loss of deep reflexes, muscular wasting, lowering of faradaic excitability, loss of sphincter tone. When the lesion is complete the condition is never spastic, and return of spasm and of the deep reflexes implies and is the first sign of some recovery in the conduction of the cord. Should this take place sensibility returns in the inverse order to that in which it was lost, the lowest segments of the cord recovering first. Voluntary power returns first to the flexors, and Babinski's sign is the last abnormality to disappear. In cases of total destruction of a portion of the cord, regeneration of some of the fibres may take place, but recovery never advances very far. For some time, both after the disappearance of the deep reflexes and before their return on recovery, they may be excited if the muscles be subjected to strong faradaic stimulation by means of needles inserted into them. The skin reflexes also disappear, but the plantar may be retained for some time. The anal and urethral reflexes gradually vanish, and the orifices become patulous, but the bladder and rectum retain their action better in young children. Trophic changes are slight, and bedsores do not occur with proper nursing.

Microscopic examination showed that the nerve-cells of the lumbo-sacral region in many of the cases were absolutely normal, and the wasting and loss of reflexes is therefore not due either to direct injury or secondary degeneration, but simply to inaction from isolation. This is borne out by the results of local muscular stimulation mentioned above. In the muscles the changes consist mainly of a reduction in size of the fibres, without fatty degeneration or vacuolation. Collier suggests that the local muscular stimulation phenomenon alluded to may be of use in determining whether there is or is not actual destruction of the lumbo-sacral region of the cord, as when this is destroyed no amount of stimulation will enable the deep reflexes to be evoked.

Defective Cerebellar Development in a Dog.—Some interesting observations were made by T. Lewis (*Brain*, Spring, 1904, p. 84) on a collie dog, 6 or 7 years old, which had always been noticed to be excitable, and when roused would execute "circus movements" to the left, the diameter of the circles being about a yard to a yard and a half. Ordinarily progression was normal. The cerebral mechanism reacted normally to electrical stimulation, and after the animal had been killed, the cerebrum was found to be absolutely normal. The cerebellum, however, was relatively small, the dorsal surfaces of the lateral lobes shrunken, and the superior peduncles, the dorsal and ventral cerebello-spinal tracts of the inferior peduncles, and the olivary bodies all smaller than normal. The vermis was practically normal. Microscopically the folia of the lateral lobes were found to be poorly developed, and in them, especially on the dorsal aspect, the cells of Purkinje were reduced in numbers. The cord showed a wide triradiate central canal, but was otherwise normal.

The Ætiology of Thyroid Atrophy in Cretinism and Myxœdema.—Starting with the view that sporadic and endemic cretinism and myxœdema are of thyreogenic origin, whether the thyroid be congenitally absent or atrophy subsequently from inflammation, Bayon (*Neurolog. Centralb.*, Sept. 1, 1904, p. 792) gives briefly the results of microscopic examination of a number of cases, and the conclusions which he has been led to draw from them. Almost all severe infective diseases are accompanied by a thyroiditis (which, however, can scarcely be recognised clinically, and very rarely ends in suppuration), and possibly there may be a primary inflammation also. The microscopic appearances in such cases consist of small-celled infiltration of the neighbourhood of some of the follicles, which sometimes penetrates into their lumen, and again may apparently push the epithelium of the follicle away from its basis; detachment of portions of the epithelial wall; vacuoles in the colloid, and probably increase of the latter. De Quervain has recognised giant cells in the epithelial cylinders. The epithelial wall appears to be very capable of regeneration, but if the process is advanced and widespread, a fibrous atrophy of the gland may result. Bayon's cases included five of cretinism, in one of which he found the ordinary appearances of cystic goître, in the other four merely a few remnants of adenomatous follicular structure free from colloid, embedded in a fibrous stroma which had in one case undergone hyaline degeneration. These observations would explain how the thyroid atrophy occurs in many cases of cretinism and myxœdema, but not the endemic nature of goître and cretinism.

The Leucocytes in Mental Diseases.—The results of three years' observations were read by L. Bruce at the Spring Meeting of the Medico-Psychological Association (*Journal of Mental Science*, July, 1904, p. 409). In cases of pure *acute melancholia* no leucocytosis was ever found, and therefore if there be leucocytosis in an early case of apparent melancholia the prognosis must be guarded. On the other hand, *excited melancholia* always showed a large increase in the leucocytes early in the attack, and a relapse was usually preceded by a fall in the number, which rose again as the new attack progressed. Cases of *delusional melancholia* varied according as they resembled the simple or the excited varieties. *Acute mania* exactly resembled excited melancholia. In all three hyperleucocytosis persists long after recovery, and if recovery does not take place the numbers fall, so that this occurrence is of bad prognostic import. In "*folie circulaire*" there was hyperleucocytosis during the depressed and sane stages, the leucocytes decreasing before the excited stage, to rise again as it advanced. *Recurrent mania* showed persistent leucocytosis, with first a rise, then a fall, and then another rise with each attack. *Alcoholic mania* resembles ordinary acute mania. *Hebephrenic* cases vary. *Katatonics* had previously[a] been shown to have a marked rise in the acute stage followed by a fall and subsequent rise in that of stupor. In favourable cases the leucocytosis kept high, and there was a distinct eosinophilia. The leucocytosis of *general paralysis* depends upon the character of the case, but typically there is hyperleucocytosis in the first stage, and a more or less variable leucocyte count in the second and third ; if there is a marked remission the number falls to normal. Every case of *epilepsy* showed hyperleucocytosis. In *chronic delusional insanity* the leucocytes were normal in number. Certain relative changes in the varieties of leucocytes were also found. The state of the leucocytes gave some assistance in prognosis, and an artificial leucocytosis produced by the subcutaneous injection of turpentine into the flank sometimes produced speedy recovery in mania.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

The following gentlemen, having passed the requisite Examinations of the Conjoint Board, were recently admitted Diplomates in Public Health :—James Allison, M.B., C.M., Cambuslang ; Kershaw Dinshah Khambatta, L.M. & S., L.R.C.P. & S.E., Edinburgh ; Alfred Robert Maclurkin, M.B., Ch.B., Glasgow ; Daniel Mackinnon, M.B., Ch.B., Edinburgh ; Richard Staward, F.R.C.S.E., Glasgow ; Alexander Mouat, M.B., Ch.B., Leith ; Lambert Kenneth Rodriguez, L.R.C.P. & S.E., Edinburgh ; Herbert Francis Lechmere Taylor, M.B., C.M., Edinburgh ; Herbert de Carle Woodcock, M.R.C.S. Eng., L.R.C.P. Lond., Leeds ; and David Dryburgh Gold, M.B., C.M., Markinch. At the same Sederunt, Messrs. James Alexander Raeburn, M.B., Ch.B., Edinburgh, and Mowbray Taylor, M.B., C.M., Kent, passed the First Examination in Public Health ; and Mr. Robert Dods Brown, M.B., Ch.B., Edinburgh, passed the Second Examination in Public Health.

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[a] Journal of Medical Science. Oct., 1903. P. 614.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

HIERONIMO FRACASTORIO AND THE ORIGIN OF SYPHILIS.

By JOHN KNOTT, M.A., M.D., Ch.B., and Dipl. Stat. Med. (Univ. Dub.); M.R.C.P.I.; M.R.I.A., &c.

AN interesting fact in the history of the healing art, which is not so generally known as it perhaps deserves to be, is that the original word *Syphilis* appeared as the title of a poem—and a very brilliant one. This was the work of an Italian, was written in Latin, and published in 1530 at Verona—the native city of the author—in the form of a quarto booklet of 36 leaves. The full title, which has since that date formed the nucleus of such a colossal mass of literature, is "SYPHILIS, SIVE MORBUS GALLICUS." The author was Hieronymus Fracastorius [Hieronimo Fracastorio]. He was born in 1483, the same year in which Martin Luther and François Rabelais first saw the light, and he died in 1553, the year in which the latter peacefully paid the debt of nature, and Michael Servetus was burned for "heresy" at the prosecution of the "Protestant Pope," John Calvin. He accordingly lived in an age of phenomenal unrest and—in a qualified sense—of enlightenment and discovery. When Fracastorio was 9 years old, Christopher Columbus sailed westward in search of a trans-oceanic route to the Indies; and two years later the famous epidemic which furnished the inspiration of his poem radiated from the siege of Naples. It was an age of explosive research and of iconoclastic inquiry. An unprecedented conjunction of events of thrillingly concentrated importance was then registered in the annals of the nations: when Europe was almost simultaneously affected (and inflicted) by the conquest of a new enemy, the Turks; the discovery of a new Continent, America; the infection of a (?) new disease, syphilis; the introduction of a new art, more revolutionary and levelling in tendency than any of its predecessors, printing; and the broadcast propagation of the various new theological doctrines which collectively constituted the "Reformation." The coincidence of the introduction of printing with the exodus of Greek scholars and Greek manuscripts from the capital of the Eastern Empire, which followed its capture by the Turks, resulted in a terrible display of the reality of the Cadmian allegory—it sowed all Western Europe with "dragon's teeth!" The series of successive, and interesting, and colliding waves of thought—theological and political, philosophic and social, scientific and literary, moral and immoral, which rapidly followed from East and West and South and North—soon produced the development of so great an amount of mental friction in all directions as to raise the temperature of the general intellectual atmosphere far above the boiling-point. And, as necessarily occurs during every process of violent ebullition, a large quantity of the veriest intellectual dregs was brought to the surface, while at the same time the general intellectual activity was enormously increased; many wonderfully inspired bubbles were thrown up to a great height, and some of these displayed richly artistic colours before they burst or disappeared; while, during the whole process, the really wholesome and nutritive portion of the seething liquid was that which never rose to meet the general gaze of the public eye. There can be no question—so far as history has shed its light on the pilgrimage of humanity—that the age of Hieronimo Fracastorio was, intellectually and morally, the most interesting and exciting period that the world has yet seen. And this once very famous author appears to have been one of its most brilliant products. The fact that his name is now seldom heard of is rather an indication of the decay of culture than of the growth of science within our professional ranks. His reputation in his own generation appears to have been boundless, as well as stainless; and he lived in a generation of intellectual giants and of dazzling critical searchlights. As in the case of other very celebrated personages of a period when miraculous records were still sometimes made, fame decorated the infancy of the author of *Syphilis* with some biographic items which heavily tax the mental receptivity of the twentieth century scientist. One of these is "that his lips adhered so closely to each other when he came into the world that a surgeon was obliged to divide them with his knife," and another is to the effect "that his mother was killed with lightning, while he, though in her arms at the very moment, escaped unhurt." "He was of parts so exquisite and made so wonderful a progress in everything he undertook that he became eminently skilled, not only in the belles lettrès, but in all arts and sciences. He was a poet, a philosopher, a physician, an astronomer, a mathematician, &c." The great importance attached to his opinion in the highest places is demonstrated by the fact that Pope Paul III. made use of his authority to remove the Council of Trent to Bologna, Fracastorio having deposed that a certain contagious distemper had appeared which rendered it no longer safe to continue at Trent. He was personally known to many of the most distinguished men of his generation, and he received the most adulatory criticisms from the tallest and most unsparing of the literary giants. Julius Cæsar Scaliger "was not content to assert that he was the best poet in the world next to Virgil, but he affirmed him to be the best in everything else; and, in short, though he was not of a temper to give people more than their due, he is said to have adored Fracastorius." Indeed, of the whole of the contents of the three books of the epic poem on *Syphilis*, this mammoth of criticism falls directly foul of but one item, and that is one which by no means involves a question of literary or artistic merit. Fracastorio therein enunciated as a fact that the *Morbus gallicus* confined its ravages to human beings, exclusively. This statement is traversed by Scaliger, who (states that he) knew of a dog that contracted the disease by licking the plasters which had been applied to his master's sores.

And a host of other leading critics of his own and the succeeding generation vie with one another in the praises of *Syphilis* and its accomplished author. Boissard tells us that his verses were compared to those of Virgil himself (*Ejus Poemata tanti fiunt apud omnes literatos, ut illa conferantur cum Virgilianis*); and that he was accordingly worthy of the epithet of the "*Divine*," which was applied to him by many (*æterna laude non sine causa ad cœlum evehantur, unde à multis* DIVINUS *vocatur Fracastorius*). The famous historian of that period, Thuanus, adds to the unlimited praise which he confers on our author for his super-eminent accomplishments in philosophy, mathematics, astronomy, and medicine, the statement that he always practised the last with the most brilliant success, and without fee or reward (*Et medicinam ut honestissimè ac citra lucrum ita felicissimè* *fecit*)! The celebrated Lilius Gyraldus is correspondingly laudatory; Rapin, if possible, still more so—indicating that the *Syphilis* was the most exquisite poem which had been composed for ages, and was a successful imitation of Virgil's Georgics (*tam felici successu concinnavit Syphilidis suæ poema, Opus sanè pulcherrimum quod postremis his sæculis elaboratum fuerit, Latino carmine in Italiâ, quodque scriptum est ad imitationem Georgicôn Virgilii*). And Vossius, after similarly appreciative language, mentions that (two years) after his death his fellow-citizens of Verona—the romantic abode of the jealously vindictive Montagus and Capulets, and their ill-fated victims, Romeo and Juliet—erected a marble statue to his memory; as they had done ages before to that of their inspired Catullus and their encyclopædic Pliny, respectively (*Cives sui Veronenses defuncto, ut ante Catullo, ac Plinio, statuam marmoream statuerunt Anno* 1555). Ghilinus, the famous author of the *Theatrum Virorum Literatorum*, places still more prolonged and detailed emphasis on the eminence of Fracastorius as a medical man, and considered him well deserving of the epithet of *Felix* in his practice (FELICIS MEDICI *titulum sibi comparavit, quoniam in Medicinæ exercitio magna utens dexteritate, & egregia curandi methodo, paucos habuit pares, seque amabilem et mirabilem omnibus præstitit, præsertim vero iis qui ob valetudinem ad ipsum confugiebant*).

The next most considerable (in length) of the poetic effusions of Fracastorio was one on the patriarch *Joseph*—which he began in old age and did not live to finish, and which is contrasted with the *Syphilis* in manner and execution almost as strongly as in matter. Each of these compositions was dedicated to a cardinal: the *Syphilis* to Cardinal Bembo, and the *Joseph* to Cardinal Farnese. He also composed a number of brilliant specimens of minor poetry. The second collected edition of his works (*Venetiis, apvd Jvntas*, M.D.LXXIIII), which now lies before me, contains the following:—

INDEX OPERUM, QVÆ IN HOC VOLVMINE CONTINENTVR.

Homocentricorum siue de stellis liber vnus.
De causis criticorum dierum libellus.
De sympathia & antipathia liber vnus.
De contagionibus & contagiosis morbis, & eorum curatione libri tres.
NAVGERIVS siue de poëtica dialogus.
TVRRIVS siue de intellectione dialogus.
FRACASTORIVS siue de anima dialogus.

De vini temperatura sententia.
Syphilidis siue de morbo Gallico libri tres.
Ioseph libri duo.
Carminum liber vnus.

There was published at a later date another (much-admired) poem which bears the title of *Alcon, siue de Curâ Canum Venaticorum.* Fortunately for me, an enthusiastic former owner of my copy has written out this document—in exquisite mediæval script—on the opening fly-leaves. The fact of the survival of the high poetic reputation of Fracastorio in the seventeenth century is fully proved by the inclusion of his poetical works—with the conspicuous exception of the *Joseph*—in the "*Delitiæ CC. Italorum Poetarum, hvivs svperiorisqve ævi illustrium, Collectore* RANVTIO GHERO. *CIƆ.IƆ.VIII.*" And the prose works of this writer—medical, philosophical, and scientific—will be found to display throughout a breadth and depth of view, and an inspiring *suggestiveness* of thought, features which are sometimes conspicuously absent from the pages of the less original publications of the twentieth century. An apt quotation from the *De Contagionibus et Contagiosis Morbis* has been most appropriately utilised by Sir John Moore in his work *On the Continued and Eruptive Fevers.* And the whole of that treatise will be found by the student who is qualified to scrutinise it, and can bring to bear on the examination sufficient contemporary and collateral knowledge to enable him to view the questions from the writer's standpoint, to scintillate with suggestive and inspiring ideas; of which some will pretty surely be resuscitated, with advantage to the world, when the present doctrine of the bacterial genesis of disease has ceased to be an infallible item of pathological faith.

Whether the *Morbus gallicus* was a really new disease in Europe—dating from the siege of Naples in 1494—at the time when Fracastorius wrote his "*divinum Poema,*" is a question which cannot be quite satisfactorily answered. The story that the *lues venerea* was imported to Europe from Hayti by the crew of Christopher Columbus has been repeated times without number: that the infection was communicated to their French besiegers by the Spanish garrison of Naples, in 1494; and that from that focus it was rapidly dispersed throughout Europe. But—it was not till thirty years had elapsed from the date of the introduction of the "French evil" into Italy, and its baptism with the name of "*Morbus gallicus,*" that the account of its importation from the New World appears to have found its way into print. During the first quarter of the sixteenth century—down to 1525, and, in some instances, later still—the various medical authorities who wrote on the subject offered a great variety indeed of ingenious explanations of the genesis of the new venereal plague. The catalogue of "causes" is a long and sometimes gruesomely amusing one; but the statement of its origin from a trans-Atlantic germ is conspicuously absent. Those of my readers who have some little knowledge of the hopelessly entangled connection of medicine with mysticism, metaphysics, theology, astrology, and alchemy, which prevailed during the darkly interesting period of the reign of scholasticism, are, of course, prepared to grasp the central factor in the development of the semi-inspired confidence with which two of the most prominent and most learned physicians of that age announced their belief that the origin of the "French disease" arose from the close conjunction of the sun with Mercury, Jupiter, and Saturn, which happened to occur in the year 1483—the year which saw the birth of the author of *Syphilis*, and also of Martin Luther, another of the great sources of European trouble in the following century! But, as it so happened that the year in which the great initial epidemic of the *Morbus gallicus* spread over Italy was also one characterised by exceptionally heavy rains and consequent inundations, the still more famous physician, Nicolaus Leonicenus discarded the astral pathology of Corradino Gillini and Gaspare Torella, and substituted a less elevated meteorological: that the outbreak of the foul disorder was aboriginally engendered by the excessive amount of moisture which at that date existed—in the heavens above, and in, as well as on, the earth beneath. The great reputation of this physician governed the opinions of many subsequent "authorities." Afterwards, we find Manardi and Paracelsus both ascribing the origin of the new disease to the intercourse of a leprous male with a prostitute: the former knew of the case by personal acquaintance—the gentleman was a Valentinian by birth; the evidence in the possession of Paracelsus was of similar origin, but the male partner in his version was of French nativity. The learned and deservedly famous Antonius Musa Brassavola, of Ferrara, informed the professional world that the original epidemic of the "French disease" spread from the person of a female camp-follower of the French army at the siege of Naples. The female in question suffered from an abscess at the mouth of the uterus. But a widely divergent explanation of its source was furnished by Gabriel Fallopius of Modena, the celebrated anatomist and physician whose name has become immortalised in connection with the human oviduct. He avers that the Spaniards, at the time when they were hard pressed by their French besiegers, poisoned the wells from which the latter obtained their water supply, and that the new epidemic arose from that source only. The celebrated physician of Pope Clement VIII., Andrea Cesalpino—one of the foremost claimants to the credit of the discovery of the circulation of the blood—tells us that he learned from those who had been present at the siege of Naples, and the other operations of that campaign, that the disease really originated at the siege of Somma. a village of the Vesuvian territory. A great quantity of an excellent, and highly appreciated, Greek wine was shut up therein. One night the besieged Spanish garrison managed to effect their escape, leaving behind them the greater part of their wine—which they had previously mingled with the blood of the sick of San Lazaro. The French besiegers, on entering the place next day, with the characteristic pillaging and self-indulging instincts of "that dissipated nation," drank freely of the luscious wine, after which event they soon developed venereal symptoms. The learned Bolognese physician, Leonardo Fioravanti, states that he was informed by the son of a person who had been sutler to the army of Alfonso, King of Naples, that when the supply of meat began to run short on account of the prolongation of the war, this sutler supplied both camps with dressed human flesh instead. The unconscious cannibalism which was the result of the gruesome fraud thus perpetrated was the immediate cause of the development of the *original* epidemic of *Morbus gallicus*. The great Lord Chancellor Bacon quotes this story, as he does so many other "old wives' tales," with patronising credulity; and he adds, too, that the human flesh supplied on that occasion was that of men who had been killed in Barbary, and that it had been prepared and dressed after the manner of tunny fish.

Whether the *Morbus gallicus* was really a West Indian import, and one previously unknown on this side the Atlantic Ocean. were questions evidently of frequent discussion in the days of the author of *Syphilis*; and which the reader of the latter will find referred to without attempt at dogmatic decision. True to the tone and diction of his epic, he closes the poem with a thoroughly poetic version of the first appearance of the epidemic—

classic and pagan as his great prototype, Virgil, could himself have made it. This would seem meant to lead the reader to believe in its European antiquity. The lines are well worthy the attention of every reader interested in the history of the healing art, as every medical man worthy of his calling must always be; more especially having regard to the fact that the origin of the word *syphilis* has proved as effective a *pons asinorum* to medical etymologists, as the origin of the protean pathological entity which it connotes has been to medical annalists. And they are as follows:—

Syphilus (vt fama est) ipsa hæc ad flumina pastor
Mille boues, niueas mille hæc per pabula regi
Alcithoo pascebat oues, & fortè sub ipsum
Solstitium vrebat sitientes Syrius agros:
Vrebat nemora: & nullas pastoribus vmbras
Præbebant syluæ: nullum dabat aura leuamen,
Ille gregem miseratus, & acri concitus æstu,
Sublimem in Solem vultus & lumina tollens,
Nam quid Sol te, inquit, rerum patremque Deumque
Dicimus, & sacras vulgus rude ponimus aras,
Mactatoque boue, & pingui veneramur acerra,
Si nostri nec cura tibi est, nec regia tangunt
Armenta? an potius superos vos arbitrer vri
Inuidia? mihi mille niuis candore iuuencæ,
Mille mihi pascuntur oues: vix est tibi Taurus
Vnus, vix Aries cœlo (si vera feruntur)
Vnus, & armenti custos Canis arida tanto.
Demens quin potius Regi diuina facesso,
Cui tot agri, tot sunt populi, cui lata ministrant
Æquora, & est superis, ac Sole potentia maior?
Ille dabit facilesque auras, frigusque virentum
Dulce feret nemorum armentis, æstumque leuabit.
Sic fatus, mora nulla, sacras in montibus aras
Instituit regi Alcithoo, & diuina facessit.
Hoc manus agrestum, hoc pastorum cætera turba
Exequitur: dant thura focis incensa, litantque
Sanguine taurorum, & fumantia viscera torrent.
Quæ postquam rex, in solio dum fortè sederet
Subiectos inter populos, turbamque frequentem,
Agnouit, Diuûm exhibito gauisus honore
Non vllum tellure coli se vindice numen
Imperat, esse nihil terra se maius in ipsa:
Cœlo habitare Deos, nec eorum hoc esse, quod infra est.
Viderat hæc, qui cuncta videt, qui singula lustrat,
Sol pater, atque animo secum indignatus, iniquos
Introrsit radios, & lumine fulsit acerbo.
Aspectu quo Terra parens, correptaque ponti

> Aequora, quo tactus viro subcanduit aër.
> Protinus illuuies terris ignota profanis
> Exoritur, primus, regi qui sanguine fuso
> Instituit diuina, sacrasque in montibus aras.
> *Syphilus*, ostendit turpes per corpus achores.
> Insomnes primus noctes, conuulsaque membra
> Sensit, et à primo traxit cognomina morbus,
> *Syphilidem*que ab eo labem dixere coloni.

So that, according to the conception of Fracastorio, the original plague of syphilis was a visitation of the offended Solar Deity: just as was that which opens the action of the *Iliad*—the complications of which led to the development of "Achilles' wrath"! The arrows of the "far-darting Apollo" were tipped for the occasion with a special culture of the bacillus of Lustgarten!

As the author of *Syphilis* has not confided to his readers the stages of the mental process by which the name of the afflicted hero of his poem was evolved, a difficulty was, of course, developed in connection with its probable etymology. The very obvious derivation from *σύν* (with) and *φίλος* (loving) of course suggests itself, and has generally been regarded—as it is by the present writer—as the most probable. But a somewhat more tortuous origin has been suggested—probably by some habitual discoverer of etymological "mare's nests"—from *σῦς* (hog) and *φίλος*. This latter derivation is, of course, suggestive of bestiality, and of the most revolting kind. After all, although the word has a Greek aspect, and accordingly was appropriately placed in a poem constructed after a classical model, it has not an actual Greek basis. We should probably regard its formation as a specimen of poetic licence. If either of the above-named derivations were really accurate, the resulting word should, for the first, have been *Symphilus*; and, for the second, *Syophilus*.

The origin of the appellation of "*Morbus gallicus*" which became so popular soon after the appearance of the great epidemic must, of course, be referred to national antipathy. But this was by no means the sole epithet of corresponding derivation. The French gave it the name of "*Morbus neapolitanus*"—after the place of its birth. From its traditional Spanish-American importation it received the compound epithet of "*Scabies hispanica.*" The racial antipathies of dirt-throwing patriots transferred the association of the disease and its name to the nationalities which they most detested. Accordingly, the more widely-diffused "*Gallic*" cognomen was sometimes freely translated into

"German," "Polish," "Turkish," &c. And the Turks—for this was the period which they had just come into broad contact with Europeans—retaliated with the name of "*The Christian disease.*"

The question of the antiquity and the cosmopolitan distribution of the *lues venerea* have, as all readers know, been very frequently, and generally rather inconclusively, discussed. Its modern origin must strike the pathologist as extremely unlikely. The Biblical writers and classical authors offer some very suggestive allusions. Gleaners in the rich harvest of the "higher criticism" know that some contributors have suggested that the "great plagues" with which the Lord plagued Pharaoh and his house, "because of Sarai Abram's wife," can have been no other than venereal. The most learned and copious of the Jesuitical commentators on the book of Job has discussed at great length the physical afflictions of that patriarch, and adopted the opinion that they were truly venereal. Even the agonising appeal of the Psalmist himself—subsequent to his first meeting with Bathsheba—"Heal me, O Lord! for my bones are vexed"—has aroused the most compromising suspicions. The idea of the association of the lesions of venereal disease with the sufferer of proverbial patience was so firmly rooted in the Italian mind at the time of the outbreak of the historical epidemic of the *Morbus gallicus*, that we possess the testimony of the contemporary author, Fulgentio, to the effect that, even from the beginning, some called the new plague "Morbus Sancti Jobi." I may here mention that the names of other saints became subsequently attached to the disorder; it has been referred to at various times, and by various writers, as the "disease of St. Mevius," "disease of St. Roch," "disease of St. Sementius," &c., &c.

The classical allusions to symptoms and lesions of probably venereal origin are, it must be admitted, comparatively few—even in the least restrained compositions of Juvenal and Martial. Still there are some very significant ones to be found. The lines of Catullus—the ancestral fellow-citizen of Fracastorio—in which he so ruthlessly attacks the morals of Julius Cæsar, are unquestionably very suggestive:

> . . . *maculæ* pares utrisque
> Urbana altera, et illa foramina,
> Impressæ resident nec eluentur.

And with regard to the existence of venereal disease in mediæval times, the descriptions and allusions of Avicenna, Albucasis, Gulielmus de Saliceto, Lanfranc, John of Gaddesden, &c., &c., are far too definite and pointed to be meant for anything else than groups of lesions *very similar*, at least, to those included in modern times under the generic appellation of syphilis. In the year 1302 we find that diseases of the genital organs had become so common in Venice that a fine of 20 soldi was imposed—for each offence—on every person who was convicted of having been the agent of communication. Towards the close of the same (14th) century, Valesco mentions pustules and ulcers of the penis, which he attributed to "coitus cum fœtidâ, vel immundâ, vel cancrosâ muliere." And the preventive prescription of John of Gaddesden is almost as prophetic of twentieth century practice as his scarlet treatment of small-pox: "Si quis vult membrum ab omni corruptione servare cum recedit a muliere quam suspectam de immunditiâ, lavat illud cum aquâ frigidâ cum aceto mixtâ, vel de urinâ propriâ interius vel exterius intra præputium."

The present writer strongly inclines to the view expressed by Lane in the *Lancet* of 53 years ago: "That the venereal disease had existed for centuries prior to the siege of Naples, not only in South America, but in all parts of the world wherever promiscuous sexual intercourse, unrestrained by religion or by the customs of society, was carried to great excess . . . that the discovery made at this period consisted simply in the recognition of a peculiar animal poison as the cause of various symptoms affecting different tissues of the human body, at considerable intervals of time, which symptoms had not been previously known to have any relation to each other." Add to this extreme probability the fact—not generally discussed in manuals of surgery, and never, so far as I know, in those of bacteriology—that a more destructive type of venereal disease tends to develop from inoculation with the virus derived from an individual of a remoter race, and we have, I venture to think, the double key required to unlock the historical mystery of the rejuvenescence, after the discovery of the New World, of the disease which inspired the muse of Fracastorio. The "Swan-Alley sore" of the days of Benjamin Travers was immeasurably more destructive in its inoculations than any average London chancre, for it was the fruit of the continuous patronage of the foreign sailors and refugees derived from the dregs of the populations of other countries. And the ravages of the "black lion" of the Peninsular War, which caused the infliction of so many specimens of "that most melancholy of all mutilations" on the flower of England's chivalry, were said to have emanated from the person of a magnificently fascinating Spanish beauty, who appeared on the stage every night in a state of apparently unsuspicious health.

The view which I have ventured to express would, I think, satisfactorily account for the apparent historical discrepancies connected with the annals of venereal disease. It would reconcile the reports of its previous existence in the Old World, and its dispersion throughout all the regions thereof, with an abrupt outbreak of a more virulent type of the disease after the discovery of the New World by Columbus and his Spanish crews. We have the most respectable and, apparently, unprejudiced testimony to the old time existence of the venereal disease in various remote regions of the "Old" World. For instance, the great French geographer, André Thevet, informs us that the "French disease" was endemic in Africa, along the regions bordering the River Senegal. I. Bonzius, who was physician to the Dutch settlement in the East Indies, states that the same disease was endemic in Amboyna and the Moluccas. Cloyer, the first physician of the Dutch colony in Java, tells us that the venereal contagion was a natural endemic product of that great island, and as common there as the quotidian ague. And we are told by Herrera that Magellan and his crew—in the first circumnavigation of the globe—landed at Timor, an island of the Moluccan Archipelago, and there found a great number of the native inhabitants affected with the *Morbus gallicus,* although previously unacquainted with Europeans of any and every nationality. Astruc, the author of the classical work on *lues venerea,* questioned Forneau on the subject, who had long lived among the Chinese, and had investigated their customs and penetrated their secrets as only a French Jesuit can. He was told that the Chinese physicians believed that the disease had existed there from the earliest antiquity, the authors of their oldest books referring to it as an ancient disease. I venture to think that the collective statements of the above witnesses—a few only abstracted from the available multitude—should satisfy all readers of the antiquity of venereal disease.

Before closing the subject of Fracastorio and his *Syphilis,* I will give an extract from the encyclopædic Bayle, which offers an excellent view of the name and fame of the author and his work; while displaying a jealous French growl elicited by the nomenclature of the disease which he undertook to describe in a way so very unusual, and an attempt to retaliate by substituting the term "Neapolitan" for "Gallic" in the malodorous epithet: "We can hardly forgive FRACASTORIUS for his poem upon that vile distemper, which he ought to have treated only as a physician. If he had acquired a great fortune by curing this terrible effect of debauchery, there would have been something to be said. He might have urged that he displayed his poetic talent upon this *Neapolitan Evil* to testify his gratitude for the services it had done him; and we might, perhaps, have cited him along with the surgeon who, on being reproved for kneeling down to the statue of Charles VIII., answered that he knew very well what he did, and that there was no saint he held in greater veneration than a prince who had, though indeed indirectly, enriched him by the distemper which his soldiers had caught at Naples; but, practising always for nothing, he had no such pretence. To be serious, the *Syphilis* is an incomparable poem; and charmed to admiration the two Scaligers, Sannazarius, and others, the severest judges. Fracastorius would needs compose another poem, and he chose for his subject the adventures of the patriarch Joseph; but the season for making verse was over with him, and he no longer felt that fire and vigour of imagination which he had shown in his former years."

Hieronimo Fracastorio died of apoplexy at Casi, near Verona. His enthusiastic admirer, Julius Cæsar Scaliger—the famous and merciless critic—had dubbed him during life, "præstantissimus post Virgilium Poetarum," and wrote of his *Syphilis* as the "Poëma divinum." The same unrivalled hand penned his epitaph in the following lines:—

Hic situs est *Fracastorius Hieronymus*: urna
  Quem capit, hic cepit pectore cuncta suo.
Sidera digessit: revocavit funera, rerum
  Naturæ, imperii conscius, atque Dei.
Aut *Heliconiadum* fontem sibi sustulit omnem:
  Aut tumulus vertex hic *Heliconis* erit.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir John Moore, B.A., M.D., Univ. Dubl.; D.Sc. Oxon.; F.R.C.P.I.; F.R. Met. Soc.
Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

Vital Statistics.

For four weeks ending Saturday, October 8, 1904.

IRELAND.

Twenty-two Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending October 8, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 17.4 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, October 8, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Sept. 17	Sept. 24	Oct.	Oct. 8			Sept. 17	Sept. 24	Oct. 1	Oct. 8	
22 Town Districts	18.0	20.6	19.4	17.4	18.9	**Lisburn** -	27.3	4.5	4.5	22.7	14.8
Armagh -	41.2	27.5	6.9	6.9	20.6	**Londonderry**	11.3	17.6	11.3	11.3	12.9
Ballymena	14.4	14.4	4.8	9.6	10.8	**Lurgan** -	17.7	8.9	22.1	13.3	15.5
Belfast -	17.9	17.7	17.6	19.2	18.1	**Newry** -	16.8	33.6	37.8	16.8	26.2
Clonmel -	15.4	25.6	10.3	35.9	21.8	**Newtownards**	11.4	17.2	28.6	11.4	17.2
Cork -	18.5	14.4	22.6	18.5	18.5	**Portadown**	15.5	15.5	20.7	10.3	15.5
Drogheda -	49.0	12.3	28.6	12.3	25.5	**Queenstown**	59.3	19.8	–	19.8	24.7
Dublin - **(Reg. Area)**	16.8	25.9	19.0	17.5	19.8	**Sligo** -	19.2	9.6	24.0	28.8	20.4
Dundalk -	8.0	12.0	19.9	19.9	15.0	**Tralee** -	37.0	37.0	31.7	15.9	30.4
Galway -	31 1	35.0	38.8	–	26.2	**Waterford**	27.8	13.6	19.5	15.6	19.0
Kilkenny -	14.7	9.8	9.8	9.8	11.0	**Wexford** -	14.0	28.0	28.0	23.3	23.3
Limerick -	5.5	21.9	36.9	10.9	18.8						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, October 8, 1904, were equal to an annual rate of 1.9 per 1,000, the rates varying from 0.0 in seventeen of the districts to 4.7 in Wexford. Among the 132 deaths from all causes in Belfast are 5 from measles, one from whooping-cough, 5 from enteric fever, and 7 from diarrhœal diseases. Among the 27 deaths from all causes in Cork are 3 from diarrhœal diseases; and the 8 deaths in Waterford include 2 from diarrhœal diseases.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week amounted to 178—87 boys and 91 girls; and the deaths to 130—67 males and 63 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 17.9 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the Area, the rate was 17.5 per 1,000. During the forty weeks ending with Saturday, October 8, the death-rate averaged 24.5, and was 1.3 below the mean rate for the corresponding portions of the ten years 1894–1903.

Scarlet fever and enteric fever each caused one death; whooping-cough caused 3 deaths, and diarrhœal diseases 10. In the 3 preceding weeks deaths from diarrhœal diseases numbered 14, 28, and 16, respectively.

Croupous pneumonia caused 2 deaths, broncho-pneumonia 3, and *pneumonia* 2.

Tuberculous disease caused 32 deaths, including 4 from tubercular phthisis, 20 from *phthisis*, 2 from tubercular meningitis. 2 from tabes mesenterica, and 4 from other forms of the disease.

Carcinoma caused 2 deaths, and *cancer (malignant disease)* one death.

The deaths of 2 infants were attributed to premature birth.

Diseases of the nervous system caused 4 deaths.

There were 27 deaths from diseases of the heart and blood-vessels.

Bronchitis caused 11 deaths.

In one instance only (that of a person aged 63 years) the cause of death was " uncertified," there having been no medical attendant during the last illness.

Forty-five of the persons whose deaths were registered during the week were under 5 years of age (29 being infants under one year, of whom 2 were under one month old), and 31 were aged 60 years and upwards, including 13 persons aged 70 and upwards, of whom 4 were octogenarians.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the " Infectious Diseases (Notification) Act, 1899," as set forth in the following Table, have been furnished by Sir Charles Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin ; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District ; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District ; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District ; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District ; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended October 8, 1904, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

Cities and Urban Districts	Week ending	Smallpox	Measles	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Diarrhœal Diseases	Total
City of Dublin	Sept. 17	-	*	4	-	-	5	-	6	7	11	1	*	*	*	34
	Sept. 24	-	*	4	-	-	2	-	-	14	14	-	*	*	*	34
	Oct. 1	-	*	5	1	-	3	-	-	8	12	-	*	*	*	29
	Oct. 8	-	*	8	-	-	6	-	1	23	9	-	*	*	*	47
Rathmines and Rathgar Urban District	Sept. 17	-	*	2	-	-	-	-	-	-	-	-	*	*	-	2
	Sept. 24	-	*	-	-	-	-	-	-	1	1	-	*	*	7	[illegible]
	Oct. 1	-	*	1	-	-	3	1	-	1	-	-	*	*	-	[illegible]
	Oct. 8	-	*	1	-	-	-	-	-	3	1	-	*	*	1	6
Pembroke Urban District	Sept. 17	-	-	3	-	2	1	-	-	-	-	-	-	-	*	6
	Sept. 24	-	1	1	-	-	-	-	-	-	-	-	-	2	*	4
	Oct. 1	-	-	1	-	-	-	-	-	1	1	-	-	1	*	4
	Oct. 8	-	1	-	-	-	-	-	-	1	1	-	-	2	*	5
Blackrock Urban District	Sept. 17	-	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Sept. 24	-	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Oct. 1	-	*	-	-	-	-	-	-	1	1	-	*	*	*	2
	Oct. 8	-	*	-	-	-	-	-	-	-	-	-	*	*	*	-
Kingstown Urban District	Sept. 17	-	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Sept. 24	-	*	-	-	-	-	-	-	1	1	-	*	*	*	2
	Oct. 1	-	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	Oct. 8	-	*	-	-	-	-	-	-	-	-	-	2	*	*	2
City of Belfast	Sept. 17	-	*	21	-	-	6	1	9	22	8	-	*	*	*	67
	Sept. 24	-	*	22	-	-	3	1	10	9	4	-	*	*	*	[illegible]
	Oct. 1	1	*	12	1	-	3	-	17	17	9	-	*	*	*	60
	Oct. 8	1	*	14	1	-	5	1	16	22	9	-	*	*	*	[illegible]

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended Saturday, October 8, 1904, 20 cases of measles were admitted to hospital, 9 were discharged, and 56 patients remained under treatment at its close.

Four cases of scarlet fever were admitted to hospital, 11 cases were discharged, and 43 cases remained under treatment at the close of the week. This number is exclusive of 10 convalescents still under treatment in Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Six cases of diphtheria were admitted to hospital, 8 were discharged, and 17 cases remained under treatment at the close of the week.

Eleven cases of enteric fever were admitted to hospital, 10 cases were discharged, and 52 cases remained under treatment at the close of the week. One case of typhus fever remained in hospital at the end of the week.

In addition to the above-named diseases, 4 cases of pneumonia were admitted to hospital, 7 patients were discharged, and 16 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, October 8, in 76 large English towns, including London (in which the rate was 13.9), was equal to an average annual death-rate of 15.1 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 15.1 per 1,000, the rate for Glasgow being 15.2, and for Edinburgh 12.7.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of September,* 1904.

Mean Height of Barometer,	30.003 inches.
Maximal Height of Barometer (23rd, at 9 p.m.),	30.308 „
Minimal Height of Barometer (5th, at 9 p.m.),	29.576 „
Mean Dry-bulb Temperature,	55.3°.
Mean Wet-bulb Temperature,	52.7°.
Mean Dew-point Temperature,	50.1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.364 inch.
Mean Humidity,	83.3 per cent.
Highest Temperature in Shade (on 5th),	71.6°.
Lowest Temperature in Shade (on 29th),	41.1°.
Lowest Temperature on Grass (Radiation) (on 28th),	38.2°.
Mean Amount of Cloud,	50.6 per cent.
Rainfall (on 17 days),	2.339 inches.
Greatest Daily Rainfall (on 12th),	1.197 „
General Directions of Wind,	E.S.E., S.S.E., S.W.

Remarks.

A favourable month, although rain fell frequently up to the 15th—very heavily in Dublin on the 12th, when the fall was 1.255

inches at Leeson Park, 1.197 inches at 40 Fitzwilliam-square, W., 1.088 inches in Trinity College, .880 inch at the Royal Botanic Gardens, Glasnevin, and only .520 inch at the Ordnance Survey Office, Phœnix Park. After the rainy period an anticyclone of much staying power and some intensity caused beautiful weather—fair and bright days, and calm cool nights—from the 16th to the 25th. A bank of cloud which formed over the city about noon of the 27th gave a local rainfall of .254 inch in 1¼ hours at Fitzwilliam-square, and of .332 inch in Trinity College. The duration of bright sunshine was estimated at 161 hours, or 42.7 per cent. of the possible duration, equal to a daily mean of 5.4 hours, compared with a twenty years' mean of 143.4 hours recorded at the Ordnance Survey Office, Phœnix Park, or 38 per cent. of the possible duration. At night also the "harvest moon" was much in evidence, and very perfect lunar rainbows were seen on the 4th and 8th.

The most prevalent winds were E.S.E., S.S.E., and S.W.

In Dublin the arithmetical mean temperature (56.8°) was above the average (55.9°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 55.3°. In the forty years ending with 1904, September was coldest in 1886 and 1892 (M. T. = 53.0°), and warmest in 1865 (M. T. = 61.4°) and 1898 (M. T. = 60.2°). In 1903 the M. T. was 56.0°.

The mean height of the barometer was 30.003 inches, or 0.093 inch above the corrected average value for September—namely, 29.910 inches. The mercury rose to 30.308 inches at 9 p.m. of the 23rd, having fallen to 29.576 inches at 9 p.m. of the 5th. The observed range of atmospheric pressure was, therefore, .732 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 55.3°, or 2.9° below the value for August, 1904. Using the formula, *Mean Temp. = Min. + (Max. — Min.* × .476), the mean temperature was 56.5°, or 0.9° above the average mean temperature for September, calculated in the same way, in the thirty years, 1871–1900, inclusive (55.6°). The arithmetical mean of the maximal and minimal readings was 56.8°, compared with a thirty years' average of 55.9°. On the 5th the thermometer in the screen rose to 71.6°—wind, S.S.E.; on the 29th the temperature fell to 41.1°—wind calm. The minimum on the grass was 38.2° on the 28th.

The rainfall was 2.339 inches on 17 days. The average rainfall for September in the thirty-five years, 1866–1900, inclusive, was 2.220 inches, and the average number of rainy days was 15. In 1871 the rainfall was very large—4.048 inches on, however, only 13 days; in 1896 no less than 5.073 inches fell on 23 days, establishing a record rainfall for September. On the other hand, in 1865, only .056 inch was measured on but 3 days. In 1903, 3.397 inches fell on 17 days.

High winds were noted on 11 days, but attained the force of a gale on the 12th alone. The atmosphere was foggy on the 10th, 14th, 20th, 27th and 28th. Solar halos were observed on the 11th and 29th.

The rainfall in Dublin during the nine months ending September 30th amounted to 19.147 inches on 152 days, compared with 25.269 inches on 174 days in the same period of 1903, 21.425 inches on 149 days in 1902, 18.070 inches on 124 days in 1901, 24.394 inches on 156 days in 1900, 20.948 inches on 138 days in 1899, only 10.968 inches on 112 days in 1887, and a thirty-five years' average of 19.880 inches on 145 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 30.004 inches, the range of atmospheric pressure being from 29.590 inches at 9 p.m. of the 5th and also at 9 a.m. of the 14th to 30.312 inches at 9 p.m. of the 23rd. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 56.3°. The arithmetical mean of the daily maximal and minimal temperatures was 56.6°. The screened thermometers rose to 69.7° on the 5th, and fell to 41.1° on the 28th. On this latter date the grass minimum was 33.0°. On the 6th the black bulb *in vacuo* rose to 129.4°. Rain fell on 16 days to the amount of 2.245 inches, the greatest fall in 24 hours being 1.088 inches on the 12th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 150 hours, of which 10¼ occurred on the 3rd and the same number on the 20th.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.880 inches on 12 days, compared with 3.950 inches on 20 days in 1903, 3.995 inches on 12 days in 1902, 5.420 inches on 19 days in 1901, and only .695 inch on but 4 days in 1900. The heaviest fall in 24 hours was .650 inch on the 12th. At Knockdolian the rainfall since January 1st 1904, has been 21.457 inches on 141 days, compared with 27.050 inches on 154 days in 1903, 27.156 inches on 123 days in 1902, 25.105 inches on 119 days in 1901, 30.021 inches on 140 days in 1900, 28.440 inches on 139 days in 1899, and 19.688 inches on 124 days in 1898.

Mr. Robert O'Brien Furlong, C.B., returns the rainfall at Cloneevin, Killiney, in August, 1904, at 2.85 inches on 16 days, the largest measurement in 24 hours being .88 inch on the 30th. The average precipitation in August at this station in the nineteen years, 1885–1903, was 3.146 inches on 17 days. Up to August 31 the rainfall in 1904 at Cloneevin amounted to 16.54 inches on 126 days. In September rain fell on 18 days to the total quantity of 2.27 inches, of which .89 inch was measured on the 12th. The average rainfall in September for the nineteen years, 1885–1903, was 2.142 inches on 13.2 days. Since January 1, 1904, the total rainfall at Cloneevin amounts to 18.81 inches on 144 days.

Dr. Arthur S. Goff returns the rainfall at Lynton, Dundrum, Co. Dublin, at 2.94 inches on 19 days, compared with 5.03 inches on 18 days in 1901, 4.09 inches on 19 days in 1902, and 4.33 inches on 21 days in 1903. The greatest daily fall was 1.15 inches on the 12th. The mean temperature in the shade was 56.2°, compared with 55.3° in September, 1903. The screened thermometers rose to 69° on the 5th, and fell to 43° on the 28th.

Mr. Wm. Miller states that in the City of Cork the rainfall was 3.88 inches on 14 days, or 1.18 inches above the average for September. The rainfall was greatest on the 7th, when 0.85 inch was measured. In the 9 months ended September 30, the rainfall was 29.75 inches, or 3.36 inches above the average, but 10.89 inches less than in the corresponding period of 1903.

Dr. B. H. Steede reports that at the Royal National Hospital, Newcastle, Co. Wicklow, the rainfall in August was 2.623 inches on 19 days, compared with 3.171 inches on 24 days in 1903, 4.084 inches on 14 days in August, 1902, 3.055 inches on 15 days in 1901, 3.988 inches on 12 days in 1900, 1.877 inches on 13 days in 1899, 3.803 inches on 16 days in 1898, and 4.526 inches on 20 days in 1897. The heaviest fall was .802 inch on the 21st. From January 1 to August 31, 1904, the rainfall at this Normal Climatological Station was 21.871 inches on 140 days, compared with 27.026 inches on 154 days in the first 8 months of 1903, 22.358 inches on 122 days in 1902, 16.646 inches on 100 days in 1901, 24.144 inches on 130 days in 1900, 23.748 inches on 117 days in 1899, and 20.101 inches on 110 days in 1898. The maximal temperature in the shade was 70.6° on the 27th, and the minimal temperature was 44.5° on the 19th.

In September the rainfall at the Royal National Hospital amounted to 3.823 inches on 15 days, .624 inch falling on the 7th. The maximal temperature in the shade was 63.8° on the 2nd and 7th, the minimum was 42.0° on the 22nd. Since January 1, rain has fallen on 155 days to the amount of 25.424 inches.

The rainfall of September at the Ordnance Survey Office, Phœnix Park, Dublin, was only 1.538 inches on 16 days, the largest catchment in 24 hours being .520 inch on the 12th, when more than double that amount fell in the city. The total duration of bright sunshine was 166 hours, the most in one day being 12 hours on the 3rd.

Mr. A. A. Smith reports that at the Railway Hotel, Recess, Co. Galway, 5.456 inches of rain fell on 15 days. The month commenced with very wild and wet weather, half an inch of rain and upwards being measured on 5 occasions during the month. Lovely weather prevailed from the 19th to the 28th inclusive, but on the 29th the maximal daily rainfall of the month occurred—namely, .860 inch.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 56.8°, being 1.2° below the average for the month during the previous 6 years, the extremes being—highest, 66.7°, on the 19th; lowest, 43.5°, on the 29th. At Bournemouth the mean was 57.3°, the extremes being—highest, 70°, on the 6th and 8th; lowest, 43°, on the 21st. The mean daily range of temperature was 11.9°, at Bournemouth it was 15.7°. The mean temperature of the sea at Sandycove bathing-place was 55.5°, being 2.1° below the average for the month during the past 6 years, and it is remarkable that it has remained below this average since November last. The relative humidity was 77 per cent. The rainfall was 1.83 inches on 18 days, being 0.83 inch. below the average for September during 14 previous years (1873–83 and 1901–03). The greatest precipitation was on the 12th, when 0.81 inch was recorded. At Bournemouth the rainfall was 1.85 inches on 14 days. The total duration of bright sunshine was 152.8 hours, as compared with 166 hours at Phœnix Park, 108.2 hours at Valentia, 122.9 hours at Parsonstown, 165 hours at Southport, and 167.8 hours at Eastbourne.

PERISCOPE.

HUMAN BOTRYOMYCOSIS.

Dr. Paul Piollet of Lyons has contributed to the *Gazette des Hôpitaux* (4 Août, 1904) a series of three cases of *botryomycosis* occurring in the human subject. The first case was that of a woman, aged fifty, by occupation a hairdresser; the second occurred in a vigorous man of fifty-seven; the third was that of a young married woman of twenty-seven. In the first of those cases, the patient (an otherwise healthy woman) had no recollection of any local injury; the morbid change began as a small wart on the left thenar eminence. For a considerable time it remained painless, but bled easily. When seen at hospital, there was a fungous mass of about the size of a pea, which had been painful for some time, and oozed a sero-purulent fluid. Treatment by nitrate of silver (cauterisation) and antiseptic dressing was followed by satisfactory healing. But she soon presented herself with a pedunculated tumour at the seat of the former sore. This was of the size of a kidney bean, of which it presented the bilobar outlines. It sprang by a slender pedicle from the centre of a small ulcerated surface. The tumour, with the ulcer from whose base it grew, was removed by snipping with a pair of curved scissors. A point of suture was inserted, and healing took place readily. The male patient, who had been pricked by a hawthorn two months before, presented a pedunculated growth of the size and appearance of a raspberry, springing from a crateriform depression on the dorsum of the head of the metacarpal bone of the index finger—immediately behind the plane of the metacarpo-phalangeal articulation. About a month after the encounter with the hawthorn he had noticed a little excrescence of about the dimensions of a pin's head forming there; he took it for an ordinary wart, as there was no pain or inflammation. One day when struck against something it bled freely, after which it grew more rapidly, and became painful on pressure—always bleeding very readily. The tumour, with the entire basic ulcer and its margin, was removed by the bistoury, and healing took place without difficulty. In the young married woman the tumour had formed on the edge of the lower lip. She was eight months pregnant. Two months before, when playing with her two-year old boy, the latter scratched the labial margin with his nail. The new growth appeared about 15 or 20 days later. From the beginning it easily bled. It was treated by application of tincture of iodine, after which it enlarged rapidly. When seen by Dr. Piollet, it was the size of an ordinary raspberry. It was placed on the inner aspect of the lip, so that it was not visible from the outside till the latter was everted. It was removed with curved scissors, and healing was quite satisfactory. These cases bring the record of human botryomycosis up to 55; of which 41 were on the hands, and 7 on the lower lip.

THE AIX-LA-CHAPELLE TREATMENT OF SYPHILIS.

THE July issue of *The Journal of Balneology and Climatology* contains, among other excellent matter, a very interesting article on "The Aix-la-Chapelle Treatment of Syphilis." The paper was written by Dr. Lieven of that city, and read before the East Anglian Branch of the British Medical Association. The text of the communication is included in the two opening sentences: "The time has gone by in which people thought that this or that medicinal water alone could cure syphilis. Nevertheless, the thermal springs of Aix-la-Chapelle are still regarded as an essential factor in the treatment by inunction, which has rendered the place famous." And the kernel of his therapeutic teaching is contained in the following: "Mercury differs materially from other antisyphilitic drugs, especially iodide of potassium, inasmuch as all stages of syphilis are favourably influenced thereby. The tertiary as well as the secondary forms may be cured by Hg. Above all, it is acknowledged that the heredity of the syphilitic virus can be influenced by mercury, but not by iodide. The longer I practise the more is the connection between tertiarism and neglected mercurial treatment forced upon me." Regarding the combination of iodide of potassium and sarsaparilla, Dr. Lieven tells us that "we always use it where the object is to ensure an absorbent effect on syphilitic neoplasms, such as the proliferating inflammations and the periosteal swellings of the initial stage, and especially all the localised gummatous processes of the later stages. In this sense sarsaparilla is also effective in certain special cases." The method of administration *per os* for a long time, is not considered satisfactory. "That stomatitis is not always the evidence of severe general mercurialism is demonstrated by the fact that the patients come to me exhibiting recent syphilitic lesions on the skin side by side with their stomatitis. [The latter part of the sentence suggests that the writer should have been a compatriot of ours by birth.] On employing the baths and the cure by inunction the mouth symptoms subside, and simultaneously the eruptions on the skin and mucous membranes tend to disappear." Hypodermic injection of mercurial preparations is not satisfactory: insoluble salts of mercury "have lain for months unaltered in the glutea, and have then suddenly passed into the circulation, giving rise to serious toxic symptoms." The treatment adopted at Aix-la-Chapelle is, accordingly, by inunction of the mercury. The preparation of the skin by the alkaline thermal baths of that famed resort makes the absorption the easiest attainable. Every degree of graduation can, of course, be employed; and as the medical supervision is complete, the best results are secured.

NEW PREPARATIONS.

Messrs. Burroughs & Wellcome's New Tabloids.

"Tabloid" Quinine and Strychnine.—This excellent combination has the following composition:—Quinine bisulphate, gr. 1 (0.065 gm.); strychnin sulphate, gr. $\frac{1}{60}$ (0.00108 gm.). For the loss of appetite and impairment of digestion consequent on fever, or present in conditions of anæmia, neurasthenia, &c., this "tabloid" product, with its small dose of each constituent, forms an admirable gastric tonic. Dose, one to three as may be necessary. It is issued in bottles of 25 and 100.

"Tabloid" Glycerophosphates Compound.—"Tabloid" glycerophosphates compound possesses many advantages over the ordinary compound syrup of glycerophosphates which has been so extensively prescribed during the past few years in the treatment of enfeebled conditions of the nervous system. Each "tabloid" product contains the combined glycerophosphates of calcium, sodium, potassium, magnesium, and iron, with pepsin, diastase, ignatia amara, and kola equivalent to half a fluid drachm (1.8 c.c.) of syrup of glycerophosphates. All risk of deterioration by evaporation, crystallisation, or oxidation, so frequently associated with ordinary syrups, is entirely avoided when "tabloid" products are prescribed. The dose can be regulated with great nicety, and the physician is assured of therapeutic efficiency. Dose, one to eight, swallowed whole, with or after meals, as may be necessary. These tabloids are issued, sugar-coated, in bottles of 25 and 100.

ROBERT HENRY MOORE, F.R.C.S.I.

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DECEMBER 1, 1904.

PART I.
ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Physiological and Pharmacological Experiments on the Isolated Uterus.* By DR. MED. E. M. KURDINOWSKI, from the Pharmacological Laboratory of Professor N. P. Krawkow, of St. Petersburg.

IN accordance with the suggestion of Professor N. P. Krawkow; I employed Locke's fluid[a] for the "revival" of the excised uterus. The method adopted is briefly as follows:—Laparotomy is practised on a doe rabbit under ether. The abdominal aorta having been tied just below the origin of the renal arteries, a canula is introduced into the aorta. This canula is connected by an India-rubber tube with a vessel containing Locke's fluid at a temperature of 38° C. From this vessel the liquid passes at a moderate pressure through the aorta into the uterine blood-vessels, and thence flows away through a canula introduced into the inferior vena cava. After washing out the blood-vessels, the uterus is cut out, together with the adnexa, the broad and round ligaments, the intercellular tissues, a piece of the aorta and of the vena cava, and is put into the moist chamber of an apparatus especially constructed for this purpose. In this apparatus the uterus is nourished by Locke's fluid, and each contraction is recorded on a Ludwig's kymograph.

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[a] *Locke's Nutrient Fluid* has the following composition—Sodium chloride, 0.9 grm.; calcium chloride, 0.024 grm.; potassium chloride, 0.042 grm.; sodium bicarbonate, 0.010–0.02 grm.; water (distilled), 100 c.c. Dextrose 0.05 to 0.1 per cent. is added in certain cases, and through the fluid a stream of oxygen gas is continuously passed before it reaches the blood-vessels. It is now much employed in physiological perfusion experiments.

For complete "restoration" of the uterus varying periods of time are required. Sometimes the organ, especially a gravid one, is "active" even after a few minutes, but usually half an hour to an hour is necessary for this to take place. The sensitiveness of individual uteri varies: the gravid uterus is generally more sensitive than the non-gravid one; the former begins to act sooner, reacts much more distinctly, moves more energetically and more regularly. In favourable conditions of nourishment, temperature, moisture, and so on (the apparatus affords an opportunity of fulfilling all these conditions with perfect accuracy), the uterus works, as it seems, without any external stimulus and in the following manner:—The contractions of the uterus and those of the vagina are not, as a rule, simultaneous; they do not depend on each other, and they recur at tolerably regular intervals. After an hour or more the uterus gets fatigued, the waves on the curve become gradually less, the intervals between them become longer, and at last the tracing forms a straight line; but after a short period of rest the uterus begins again to work—in a word, a certain regularity (rhythm) is to be observed in the work. Peristaltic contractions are best observed in the horns of the uterus. They are like the movements of the intestines or of the earthworm, and usually start from the abdominal end of the uterine horn. The other parts of the uterus, the ligaments and the Fallopian tubes, also show peristaltic contractions. The duration of life of the isolated uterus varies, and depends on several conditions.

After obervations lasting for some hours, I took the uterus out of the apparatus and kept it in a cool vessel containing Locke's fluid. Under these conditions the uterus could be "revived" on the following day. After *excision the uterus generally survived for* 24 *to* 48 *hours. In one case a gravid uterus lived* 49 *hours* 40 *minutes.*

In two cases I observed the birth-mechanism of the isolated uterus in all its details.

I performed twenty-six physiological experiments, and came to the following conclusions :—

(1.) The isolated uterus presents a suitable subject for the solution of many questions relative to the physiology of this organ which cannot be decided by experiments on the normal intact animal. For instance, whether the uterus is capable of automatic contractions can be decided only by observations on the isolated organ.

(2.) At all stages of its sexual life the uterus is capable of automatic contractility. The virgin uterus in this respect shows no exception to the rule.

(3.) The automatic contractions when recorded appear as a curved line of waves, which looks like a cone rounded at its apex, and on which the waves are separated by approximately equal pauses.

(4.) The uterus reacts perfectly to thermal and mechanical stimuli. Under their influence the uterine contractions increase and assume a more or less pronounced tetanic character. Under these circumstances true tetanus often occurs.

(5.) Cold and warmth act with equal energy upon the uterus. The source of thermal stimuli appears to be not so much the absolute height of the temperature, but rather variations of temperature independently of the direction of variation.

(6) To electrical stimuli the isolated uterus is relatively not very sensitive.

(7.) *The isolated uterus, towards the end of pregnancy, is undoubtedly capable of performing an act of parturition.* In this act the independent and obviously purposive contractions of the broad ligament attract attention. Moreover, even in the non-pregnant state, the broad (and also the round) ligaments take an active part in the contractile activity of the uterus.

(8.) All observations on the isolated uterus, and especially a study of its birth-mechanism, bring us in a certain degree nearer to a solution of the most interesting question at issue—namely, the question of the innervation of the womb. *For it would seem that, at least as regards its contractile action, the uterus is to some extent independent of influences proceeding from the central nervous system.* The study of the behaviour of the isolated uterus brings the important question of its local innervation into the foreground.

In the pharmacological experiments I used the same method with only minor differences.

I performed sixty pharmacological experiments, and have arrived at the following conclusions :—

(1.) Pharmacological experiments on the isolated uterus have the advantage over experiments on the intact animal that, in the case of the isolated organ, separated as it is from any connection with the central nervous system, it is easier to explain the manner and mode in which uterine remedies produce their effects. and to differentiate between the way in which local peripheral effects and those centrally produced are respectively brought about.

(2.) Hydrastinin acts directly upon the uterus, apart from the central nervous system—that is, upon its intrinsic nerve and muscle apparatus—and gives a tetanic character to its contractions.

(3.) *Hydrastinin does not act upon the blood-vessels of the isolated uterus, from which it follows*—(a) *that the contractions, caused by hydrastinin, do not depend upon a constriction of those vessels*, and (b) that the specific vaso-constrictor effect of this drug is due not to a peripheral but to a central effect.

(4.) Sphacelinic acid acts upon the uterus in the same way as hydrastinin. It also has no influence over the blood-vessels of the isolated uterus.

(5.) *Sphacelinic acid, used on the uterus of the intact animal, gives a curve of contractions similar to that shown by the isolated organ under the influence of this same poison.* In both cases the tetanic character of the contractions is always pronounced.

(6.) Thus the complex question of the effect of ergot (*Secale cornutum*) upon the isolated uterus is somewhat cleared up—that is to say, in the sense that ergot (at least if a pure preparation) acts upon the uterus peripherally, not centrally, causing contractions which are quite independent of constriction of the blood-vessels.

(7.) *Adrenalin, even in the most dilute solutions, acts more energetically upon the uterus than those remedies which are regarded as specific for that organ.* It evokes a violent reaction, greatly strengthening the uterine contractions, and imparting to them a very pronounced tetanic character, while at the same time it increases, more than other poisons, the excitability of the uterus.

(8.) *Similar experiments with adrenalin on the uterus of an intact animal and on the isolated organ of the same animal give similar curves of contractions.*

(9.) Adrenalin energetically constricts the blood-vessels of the isolated uterus.

(10.) Narcotic poisons belonging to the fatty series of organic bodies (chloralhydrate and alcohol) have relatively little influence on the isolated uterus.

(11.) Only the comparatively strong solutions of these poisons paralyse the contractile activity of the uterus; the narcosis which they induce is in all its stages analogous to the narcosis of the whole animal.

(12.) A remarkable uniformity is observed in the character of the uterine contractions caused by various excitants—physical as well as chemical. The curves of the uterine contractions, produced by artificial excitants, are always characterised by a prolongation of the descending branch of the curve as compared with the ascending one.

(13.) Many phenomena observed in connection with the isolated uterus are also seen in other smooth-muscled organs. This proves the relation of the physiology of the uterus to the physiology of the other smooth-muscled organs in general.

Comparing my own observations with the existing literature of the subject, I draw the following conclusions:—

1. The contractions of smooth-muscled tissues are generally characterised by relatively long periods of latency and a very slow transmission of the condition of excitation;

further, by their peristaltic character, slow rate of propagation; and a continual tendency to a wave-like extension far beyond the place at which the movement started:

2. The smooth-muscled tissues undoubtedly possess the capacity of developing perfectly independent automatic contractions, which arise apparently without any external stimulus. These contractions may be distinguished by their regularity, rhythm, and purposive character. On the tracing they appear as regular waves with symmetrical relationship between the ascending and descending branches of the curves. The automatic contractions generally alternate with a period of rest. The usual regularity is observed also in the alternation of the periods of work and rest respectively.

3. The smooth-muscled tissues react perfectly to thermic, mechanical, and chemical stimulation. The sensitiveness to electrical stimulation is relatively unimportant—at least in the case of the isolated organ. Smooth muscle is especially sensitive to sudden variations of temperature, no matter whence they may arise. In this way tetanus may be easily developed. It can also be induced by repeated mechanical irritation. The curves of the contractions caused by artificial stimuli are distinguished by a more or less pronounced tetanic character.

4. *As the uterus, out of the body, remains irritable for more than two days, it is probable that excitation of the uterine musculature by stimuli can be directly called forth.*

5. *For the smooth-muscled tissue itself we must, it would appear, acknowledge an inherent irritability and a relative independence of nervous influences.*

ART. XIX.—*The Various Phases of a General Hospital's Work.*[a] By SIR CHRISTOPHER NIXON, M.D. (*Hon. Causâ*) R.U.I.; F.R.C.P.I.; Physician to Mater Misericordiæ Hospital.

BEFORE dealing with the matters which form the subject of my Address I am sure I only express the desire of my colleagues in making a public reference to the loss which the hospital has recently sustained by the removal from amongst us of the late senior surgeon, Mr. Hayes. One is so familiar with the extravagance of language used in obituary notices that there is often considerable difficulty in harmonising the original with the lights and shades that adorn the photograph. Yet I doubt if amongst those who knew Mr. Hayes, and were familiar with his work as a practical surgeon, anyone could find fault with my estimate of him when I say that no more faithful exponent could be found of the highest type of Christian gentleman, and of an able and accomplished surgeon. To his colleagues and to the students he was always the same—gentle, courteous, and kind; strikingly able as a diagnostician in the most obscure cases, and withal so unobtrusive and considerate to others, that everyone bowed to his superior judgment and personal charm of manner. In the fierce contests which arise in the battle of life he was not of a temperament to be either aggressive or belligerent, and, as not infrequently happens, he was more than once outdistanced by competitors not intellectually his superior; but if the esteem of those amongst whom he spent his life may be taken as a measure of personal worth, then I may say on their behalf:—

"He was a man, take him for all and all,
I shall not look upon his like again."

The practice of giving an Inaugural Address can scarcely be said to have been accorded much favour in this hospital. Speaking generally, there is an air of unreality about most of those addresses which largely detracts from their popularity, and I doubt if the modern type of students of Medicine is much enlightened or stimulated to action by discourses which are so persistently given, and the burthen of which is mainly the nobility of medicine as a profession, and the importance of anatomy and hospital attendance as subjects of the medical curriculum. These are points which the least strong-minded students are quite able to appreciate without constant iteration, and they may well be spared the infliction of annual homilies representing but too often a rivulet of text meandering through a meadow of margin. We have had here but one Address delivered during a period of ten years, but as an important addition has just been made in connection with the scientific investigation of disease, it was thought well that the public should be made acquainted with the work carried on in this large general hospital and the progress which has been made in the varied aspects of that work. Forty-three years ago—in 1861—the front portion of the building was opened for the reception of patients. Five years afterwards it aided materially in meeting the public needs and in allaying panic by admitting cases of cholera to its wards during the epidemic which then raged, the virulence of which may be judged from the large number of patients—284—who succumbed to the disease. In connection with this epidemic I may mention an incident as heroic in its way as any that could be cited of Florence Nightingale. Anyone familiar with the dread engendered by the existence in our midst of Asiatic cholera, long before our present methods of dealing with the disease were employed, can realise with what difficulty the fears of contagion amongst those engaged in attendance on the sick were allayed. Yet the Sister who had mainly the charge of the cholera wards performed with her own hands the last rites paid to the dead, and placed their remains in their last resting-place. This is but one of the many acts of heroism which the Sisterhoods of Mercy and Charity can recall, adding another record of devotion to duty for which mankind is so much their debtor. It will interest those not already familiar with the fact that the Sister to whom I refer is the present Sister Superior of the Hospital, Sister Mary Berchmanns Barry.

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[a] An Address introductory to the Session 1904-05, delivered at the Mater Misericordiæ Hospital, on Monday, November 7, 1904.

In 1872 the eastern wing was completed and opened, a considerable portion of it being utilised for the reception of fevers and other contagious diseases. In a year afterwards a virulent epidemic of small-pox broke out, and, at urgent solicitation, cases of the disease were admitted—over 800 being attended to in the hospital. No doubt a great deal of suffering and misery was ministered to, still the results were so calamitous in the spread of the disease to the other inmates that it was determined under no circumstances would cases of small-pox be again admitted to the hospital. Everyone now recognises how essential it is, in the interests of the community at large, that this disease should be dealt with in a hospital specially provided for it. In the flux of time—in 1886—the western wing was completed, including the building of the hospital chapel and that portion reserved for the accommodation of the Sisters who undertake the administration of the hospital. The three sides of the quadrangle having been completed, including spacious accommodation for the out-patient departments, laundry, &c., it would seem, at all events for the present, that structurally the hospital may be said to be complete. It is true that in 1895 an attempt was made to provide a separate block for the treatment of fever and other contagious diseases, exclusive of small-pox, and a very successful meeting, from one point of view, was held in the hospital to promote this object. Plans were prepared, and are still available, not alone for the fever building, but also for the erection of a pathological department on a scale worthy of a great general hospital. The idea, however, of building a special fever hospital seemed to upset the equilibrium of the public mind, within a limited and proximate area, with the result that there was such strenuous opposition evoked towards the project that it had to be dropped. Those who so vehemently opposed the erection of an isolated and detached building for treating fever cases offered no objection to those cases being dealt with under, even to themselves, less favourable conditions. But out of evil comes good. The funds raised at the meeting, with that administrative boldness and splendid breadth of design which is always pardonable in works of charity, were utilised in providing a convalescent home in connection with the hospital at Beaumont, Drumcondra, which in point of situation and other sanitary requirements leaves nothing to be desired. Standing in over 100 acres of pastural land, on a high plane, and in the centre of a sparsely populated district, the home should bring health and strength to many a bread-winner after passing through a prolonged illness, or recovering from the effects of some serious operation. In this way it adds materially to the usefulness of the hospital. I ought not omit to mention that a formal offer has been made by the Sisters of Mercy to give a site at Beaumont for the building of a sanatorium for consumption on strictly non-sectarian principles, the Sisters undertaking merely the nursing of the patients. Should the offer be availed of, Dublin will be freed from the opprobrium of being one of the few cities in the United Kingdom which has no sanatorium for the consumptive poor.

Whilst the structural proportions of the hospital were being completed there were no evidences of lack of progress in its administration. In it, for the first time in Dublin, the medical staff was augmented by the appointment of assistant medical officers—namely, an assistant physician and an assistant surgeon. Its work as a general hospital has been extended by the establishment of special departments which so materially add to its usefulness, whilst tending to diminish the evil of over-multiplication of special hospitals. At the present time the hospital may be said to have completed its list. It provides a department for gynæcology, one for diseases of the eye and ear, one for skin diseases, one for diseases of the throat and nose, an X-ray department, and one for dentistry. There has also been established a nursing institute, in which there is between trained nurses and probationers a staff of nearly 100 nurses available for the services of the hospital and the public generally. An estimate of the work done by the hospital may be formed from the following figures:—During the past year there were treated in the wards 3,385 cases of disease, and 1,135 operations were performed. In the out-patient department 18,035 patients were prescribed for or otherwise attended to.

The aspect which I put before you of the work that is being done in the hospital represents what may be regarded as its primary function. There are, indeed, some who would regard it as its exclusive function that the object of a hospital should be to have its patients comfortably housed, fed, nursed, supplied with skilled medical and surgical advice, whilst scant, if any, encouragement should be given to what is spoken of as experimentation in the wards, the teaching of students, or the carrying on of the work of scientific research. On the other hand, the professional view with regard to hospital work is, that whilst its primary and fundamental object should be the well-being of the patient, the nature of the professional work undertaken in the wards, the giving of clinical instruction, and the employment of all the scientific methods elaborated in our time for the purposes of investigation and research, were so far from being antagonistic to the welfare of the patient that they should be regarded as important adjuncts in ministering to his wants. A few words will justify the professional claim. It must be freely admitted that the treatment of every case in hospital is more or less experimental in its nature. Just as no two individuals are exactly alike, so likewise is there a dissimilarity in cases of disease and of surgical injury. In other words, in every case there exists a factor of uncertainty in some cases so insignificant that the treatment is carried on along routine lines, but in others the uncertainty is so great that to save the life of the patient a leap in the dark must be taken—a choice exercised between two evils—with the most satisfactory result, a result which is chronicled for future use. How many cases are there in which the arcana of the Pharmacopœia have to be explored to bring relief to suffering, to arrest the progress of disease, or to avert impending death? It may indeed be said that the art of Medicine consists in trying by repeated experiments to diminish as much as possible the condition of uncertainty so as to make our practice sure and effective. We may put it that the increment of knowledge gained by each experiment is a decrement of human suffering and pain.

With regard to clinical teaching it is not difficult to see how, quite apart from its absolute necessity for the training of students, the stimulus of a class of students, carefully noting the physician's prognostications, his analysis of symptoms and physical signs, and the effects of his treatment, must largely tell to the advantage of the patient. The interest taken in the case cannot be perfunctory. The teacher is exposed to the fierce light of the students' criticism, and, apart from considerations of humanity, of which the members of my professon can, I think, claim their share, it is not merely the duty, but the obvious advantage, of those in charge of the sick that they should be successful in their efforts. The hospital is not to be regarded as an asylum or a lazar-house. It is rather a sanctuary in which we all, students and teachers alike, learn to pity and bring succour to the distressed. The extent of that relief is measured by its efficiency, and this efficiency is, I maintain, materially stimulated by clinical teaching.

But it is with regard to the last point, the utilisation of the hospital for the purposes of research, that I am specially concerned to-day, and I have to ask you to bear with me for a few moments whilst I endeavour to put forward this claim as strongly as I am able. The progress of hospital work in its relation to the prevention and treatment of disease may be said to have been slow and uneventful until the time of Lister. It is true that physicians like Addison and Jenner made record discoveries by pursuing cases of disease from the clinical standpoint to the *post-mortem* room, and no doubt many interesting problems in the biology of disease were made clear by these and other observers. But the stimulus to laboratory investigation dates from the discovery of Lister, who utilised to the fullest extent the labours of Pasteur. That discovery was altogether the result of his observations in hospital, for nowhere except in a large general hospital could he have found materials for that method of treatment which has revolutionised not merely surgery but the medicine of our day. As an illustration of the effect of the Listerian treatment of wounds I believe I am correct in stating that the mortality after major operations has been reduced from forty to three per cent.

Who can estimate the gain to humanity of the result of this one instance of hospital research work? It is almost entirely to research work undertaken in the laboratory that pathology may be said to have attained its present position. A comparatively few years ago the work of the pathologist was left to the assistant medical officers—indeed largely to the senior students. There existed, no doubt in an imperfectly organised form, the machinery for recording notes, and compiling facts in connection with the biology of disease, of comparing these with conditions found after death, and for making generalisations from both data. But there were no means of pursuing inquiries into the modes of origin of disease, nor was any attempt made to determine the nature of obscure conditions which could be investigated only by the use of instruments of precision not then employed. In Dublin in 1894 the first step was taken in the United Kingdom to place pathology in its legitimate position. The Royal University, at the instigation of Sir William Thomson and myself, made the regulation that pathology and bacteriology should be made a special subject of the medical curriculum, and, at the same time, a professorship was created in the Medical School of the Catholic University, and the professor was appointed pathologist to the hospital. Since then the clinical physician and surgeon have had the advantage of his services. Those who are familiar with the work of the clinician can fully appreciate how much it is bound up with that of the pathologist. In many cases not merely does the diagnosis of the existing morbid condition depend upon the report furnished from the laboratory—a report most frequently made as a result of some bacteriological or chemical investigation—but the line of treatment to be pursued is based upon the conditions which this investigation has determined. There is no difficulty in realising why this should be. The physician studies the disease almost exclusively from its biological aspect; the pathologist in addition investigates it, with all the modern instruments of precision at his hand, from the physical, chemical, and bacteriological standpoint. In many, if not most, cases it is impossible to divorce the two methods of observation; hence the clinician and the pathologist may be regarded as the complement of each other. Let me illustrate my meaning by an example. There is frequently considerable difficulty in diagnosticating between two severe forms of anæmia, a profound chlorosis and progressive pernicious anæmia. There are no special signs or symptoms by which the physician can distinguish one from the other, and it is only when the blood has been subjected to a physical and chemical examination that a correct conception of the existing condition can be formed—a conception which carries with it the knowledge of the life or death of the patient.

But the work of the physician and pathologist does not stop here. The case of chlorosis is quite clear. Employing the known remedies, the patient, almost as a matter of certainty, recovers. But quite different is the case of pernicious anæmia, in which the accuracy of the diagnosis is attested by the inevitable death of the patient. Since Addison and Biermer drew attention to the condition in 1867 a great deal has been learned in connection with the life history of the disease and with the changes produced by it in the various organs and tissues of the body. But as yet the primary condition which produces the blood change is unknown. We are unable to say whether it is caused by some chemical disturbance which interferes with cell nutrition and so disturbs the uniform composition of the blood, or by some ferment or toxin which affects the vitality of the blood-cells and leads to their excessive destruction. How are these obscure points to be cleared up? As yet every form of treatment of the disease has proved futile because of our ignorance of the primary disturbance of health. It is only by carefully noting each case under observation, observing every sign indicative of functional and organic disturbance, experimenting with medicines that favourably affect the course of the affection, but, above all, employing the physical, chemical, and bacteriological methods of investigation at our disposal, that we shall be able to solve the mystery that at present envelops the origin of the disease. Such a condition is quite as hopeful for solution as was myxœdema but a few years ago. The clinical investigation of this disease led us to recognise a blood state which reduced the patient to almost a condition of imbecility; it was capable of being produced by removal of the thyroid gland, whilst further investigation established the identity of the disease with cretinism, the condition represented by those deformed and stunted specimens of humanity which the traveller meets with amongst the inhabitants of Switzerland and northern Italy. After a certain stage the steps of inquiry passed beyond the domain of the clinical observer, and the work of investigation was undertaken by the chemist and experimental pathologist. The brilliant results obtained by Horsley by removing the thyroid gland in monkeys, and the adoption of a line of treatment suggested by him and Murray of supplying thyroid gland substance to animals and human beings in which the gland was absent, is perhaps an instance of as great a triumph of the art of medicine as it is possible to record. Not alone is the cretinoid condition removed in adults, but even cretins, those creatures who seemed so little removed from mere animal existence, became bright and intelligent, and, if treated at an early age, had their bodily growth and normal configuration restored. I dwell upon this condition because it affords an illustration of what the experimental mode of investigation is likely to lead to. It would be altogether beyond the scope of this Address to advert at any length to what has been achieved by experimental research, or to state in detail how much mankind owes to it in connection with the treatment of diphtheria, tetanus, rabies, and in the investigations of the various diseases caused by parasitic micro-organisms. It is this method which, in the study of immunity, has led to the artificial production in the blood of those substances, toxins, which will, without doubt, protect the individual against the poison of typhoid fever, pneumonia, the deadly tubercle bacillus, and perhaps from that dread disease, cancer. When we consider how many morbid conditions there are which the physician comes across daily in his wards, in which there is the most intimate knowledge of the functional disturbance and organic changes which exist—where the biological history is carefully compared with the changes noted after death, and where only one link is wanted to explain the disturbed mechanism—one can realise how limited in usefulness would the clinical observer be if he were content merely to register his failures, and make no attempt to solve the riddles that daily present themselves. Let me mention some common instances of disease, the obscurity of whose origin still remains to be solved. We are all familiar with the symptoms and signs of diabetes, of the pathological changes produced by it, but we are yet in absolute ignorance of the initial point of departure from normal function. A similar difficulty presents itself in exophthalmic goître, every symptom-complex of which has been made the subject of detailed and elaborate investigation. Subtle nervous conditions like paralysis agitans, chorea, and epilepsy are yet inexplicable as to their mode of origination. We cannot presume to more than theorise upon their ætiology. In pneumonia and acute rheumatism we are equally in doubt. We do not know the conditions which in the one disease make the individual a suitable host for the pathogenic micro-organism, whilst in the other we are unable to determine whether a chemical agent or a microbe sets in motion the morbid state. It would be easy to multiply instances of disease, of the common forms of disease, in which we physicians have to play the *rôle* of empirics as regards treatment, and in which this humiliating position of empiricism must largely predominate until some advanced degree of certainty is reached by an accurate knowledge of the true nature of the morbid condition, but until that time comes I am afraid we must in many cases be content to accept humbly the old definition of a physician—that he is a satisfaction to the mind of a patient. The public are not given, even granting this mental capacity, to analyse the methods of investigation and treatment employed in any case of disease. An individual has some particular ailment, and he wants to get cured of it. There is not much use explaining to him that we are not as yet certain of the way in which the disturbance of his health is set up, and that his condition can be dealt with only symptomatically. We may talk to him very learnedly, and look wiser than even a physician could really be, but the patient tells you he came to be cured, and he expects you to work a miracle on his behalf. Such an instance is an answer to the distinguished physicist who some days ago addressed the students of a London hospital. He very truly pointed out that the fundamental studies of medicine were of a strictly materialistic nature, that they belonged to a different world from that which constituted the main object of a student of medicine, and that we should not deal with living men and women as if they represented a mere physical mechanism, as mere laboratory or chemical specimens. But unfortunately, as we know nothing of the problem which constitutes life, we have no other methods of analysis of processes of disease except by noting physical and chemical phenomena, and comparing these in any given case with a normal standard, and that normal standard is one which is conditioned by the principle of life. What is meant to be conveyed by the lesson is, that we are not to regard our patients as merely a piece of very fine mechanism, constructed by a skilled artificer, which will not bear rough or unintelligent interference, but as a type of the most supreme specimen of delicate structure endowed with the unknown principle of life, and therefore to be dealt with on a plane apart from ordinary physical and chemical methods of investigation. I venture to consider this line of argument may be considered to be what is known as a schiomachy—a battle with a shadow. Where, I ask, is there the slightest ground for believing that a single thought or act in connection with the sufferer in any hospital is not associated with his well-being, and in what instance is there any advance of knowledge that is not utilised for his benefit? In all obscure cases it is our duty to unravel the web, and in doing this by the finite means at our disposal we are steadily pressing onward to the goal which marks the limit of human progress in Medicine. It is only in this way we may hope to satisfy those who come to us for relief.

And here I think it my duty to freely acknowledge the thoroughly progressive spirit in which the Sisters of Mercy have administered the affairs of this hospital, their readiness at all times to accede to the recommendations of the Medical Board in all matters which are essential to the welfare of the patients and of the institution generally, and to their never failing consideration and courtesy towards both the staff and the students.

It was this spirit of progress which impelled those responsible for the management of the hospital to provide the necessary facilities for carrying on those researches which will lead to our more accurate knowledge of disease and its treatment. They have provided us with a laboratory which, under the direction of the pathologist of the hospital, Professor McWeeney, will be utilised for the progress of the science and art of medicine. Professor McWeeney will be glad to show our visitors over the laboratory and explain to them the points of interest in connection with it. Upon him will rest a great responsibility, the charge of the pathological department of a great hospital, and I will only say of him that I believe him to be intellectually fitted for the post. There is a remarkable point worthy of notice in connection with the pathological department of the hospital. The Royal University grants studentships in two subjects of the medical curriculum—physiology and pathology. The pathological studentship is awarded every alternate year, and since its foundation four studentships have been awarded. Out of these four, three have been gained by former students of the hospital—the first by our own professor, Dr. McWeeney, the second by the distinguished assistant physician of St. Vincent's

Hospital, Dr. Dargan, and the third by Dr. Denis Farnin. Much, it is hardly necessary to say, is expected from a triumvirate representing such brilliant attainments.

The encouragement given by the managers of the hospital to the employment of scientific methods of investigation of disease necessitated an encroachment upon its slender resources. But the enlightened spirit which provided those facilities for research is bound to have its reward in perfecting our means of combating disease and alleviating human suffering. To me, personally, the opening of the new laboratory is an occasion of extreme interest. I have been connected with the hospital for thirty-six years; I have noticed its steady development and progress, and now, in the forty-third year of its existence, it may be said to be entering upon a new career of usefulness. It has, as you are all aware, an intimate connection with the Catholic University School of Medicine, and I venture to express a hope that the bond between the two institutions will be even more strongly cemented in the future. A great school of medicine—and the Catholic University School, with all its drawbacks as to position, structural proportions, and lack of endowment, can claim to be by far the largest school in Ireland—a distinction which many will regard as of some importance—should be in the closest relation with a great hospital, so that the research work of each would be facilitated and augmented In this way the tone and status of Medicine in Ireland would gradually reach the level of that attained by the great Continental schools. There should be no hesitation in accepting this view. Before the introduction of the modern methods of precision in the diagnosis of disease the Dublin school was, in many instances, in advance of the great schools in Germany, France, and Austria. Graves, Colles, Corrigan, Stokes, and Adams constitute a quintette of original observers, each one of whom is handed down to posterity as the discoverer of the special disease which bears his name. But just as the sister country has fallen so much behind in all scientific work, and as her industries have been to a large extent monopolised by America and Germany, so Medicine in Ireland has not held its own in the domain of research. Yet it may be asked is there any quality of brain power in Ireland which, under favourable conditions, would prevent it from successfully competing with that of the Germans or the French? To have signal results I hold you must have a combination of a great hospital with a great school. Given a completely equipped school of medicine, having each department thoroughly organised, manned by a competent staff of professors and assistants, and collaborating its work with a great hospital, which the spirit of the time has made ideal in all *its* departments, then, I do not say I believe, but I feel confident, the genius of Irishmen will make their country a home for scientific progress in medicine. It is scarcely possible to conceive, with the encouragement that is being given to the various conditions bound up with industrial and agricultural life in Ireland, and with such indications as are presented of the dawning of prosperity and progress, that no consideration will be given by the State to a profession from which it extracts so much profit. I say this notwithstanding that the opportunity which was recently afforded to the Government of settling the University question in such a way as would provide a school of medicine commensurate with the requirements of students of the country at large was not, unfortunately, availed of. The report of the Royal Commission on University Education in Ireland appears likely to share the fate of most Royal Commissions, the reports of which, so far as Ireland is concerned, result in vitalising the conditions they were appointed to remedy. It is stated that the present Government has fallen back no less than 34 times on Royal Commissions at a cost to the country of £392,000. In Ireland we have had several, and in most of them the outcome was uniform- no result. Indeed, in connection with higher education in this country one would feel inclined to urge the friends of the University of Dublin to demand the appointment of a Commission to consider the present condition of the higher, general, and technical education available in Ireland inside Trinity College, Dublin. No matter what the Commissioners report it is almost a certainty that the *status quo* will be maintained, and the University will be able to repeat MacMahon's response at Malakoff—"*J'y suis, j'y reste.*" Still, if a comment may be made upon the recent report on University Education presented to His Majesty it is to say that, prepared as we may be for the policy of *laissez faire* which, in regard to Ireland, appears to be a characteristic of our Government, still one would hope there is a limit which no self-respecting Government would outstep in dealing with a country which it professes to govern, and with a body of men to whom it entrusted an almost sacred mission. The condemnations and recommendations of the Commissioners are so destructive in their nature that, in face of them, to maintain an institution which, in the words of the Act establishing it, was to promote the advancement of learning in Ireland, appears to be "a mockery, a delusion, and a snare." The three main findings of the Commission were that the Royal University lowered the ideal of University education, that its system of making appointments to the Senate and offices of the University was indefensible, and that the system adopted by it of indirectly endowing certain colleges must be condemned. It is scarcely conceivable that no action would be taken upon this report, coming from a body of experts appointed by practically the same Government which abolished the Queen's University and substituted in its place the Royal University, or that any Government would be so inconsiderate, to say the least, as to continue to impose upon the members of the Senate the duty of administering the affairs of an educational body which was the subject of so strong a censure. Or is its policy to be represented by the lines—

> "I see the right, and I approve it too;
> Condemn the wrong, and yet the wrong pursue"?

There must be some change effected, and with the change I hope will come the realisation of my ideal—a great and thoroughly equipped school and hospital bound together by the closest bonds of union, and working for the common object, the progress of our profession.

In connection with the question of Commissions appointed to redress Irish grievances, I should like to advert briefly to one which for the moment excited keen interest amongst the hospital charities of Dublin. In March, 1885, a memorial from the Medical Board of this hospital was presented to the then Lord Lieutenant, Earl Spencer, praying that an inquiry should be held into the conditions as regards work done and the management of each hospital in Dublin, with a view to a redistribution of the Parliamentary grant annually voted for the maintenance of some of these hospitals. The prayer of the memorial was acceded to, and in April, 1887, a Commission was appointed to make inquiry into the management and working of the hospitals in the city, the conditions upon which annual grants from the public funds were given for the support of certain hospitals, and whether any redistribution of such annual grants was expedient and advisable. The Commissioners sat for a period extending over some five months, and examined 86 witnesses, from whom valuable information was obtained upon all points in connection with hospital management, none more valuable than that given by my colleague Mr. Chance, the President of the College of Surgeons. The Commissioners, seven in number, unanimously signed a report which made, amongst others, the following important recommendations:—(*a.*) That the annual grant should be commuted for a capital sum, to be invested in the names of trustees, and the interest thereon should be paid to a central board to be distributed by them to such hospitals as should fulfil certain specified conditions. (*b.*) The conditions laid down to entitle any hospital to a share in the distribution of the grant referred to the number of beds occupied, the number of students attending clinical instruction, the number of nurses and probationers trained, the general efficiency of the institution, and the energy of the directors, as evidenced by the amount of money collected in the shape of private subscriptions, donations, and bequests. I would not be justified in saying that the report gave universal satisfaction, but I believe I am within the strict limits of truth in stating that the feeling which prevailed amongst members of the profession and of the public generally was that a solution eminently fair and practical had been arrived at, and that, with due regard to vested interests, the recommendations of the Commission would be given effect to. This view was confirmed by the course taken by the Government of the day, for in August, 1889, a Bill giving effect to all the proposals specified in the report of the Commission was introduced by Mr. Jackson, the Chief Secretary for Ireland for the time being. And now occurred an action of a mysterious nature. For some cryptic reason—there never was the least attempt to explain the why or wherefore—the Bill after being read a second time, was withdrawn and the report of the Dublin Hospital Commission shared the fate meted out to the many Commissions which preceded and followed it. I would hardly think it necessary to touch upon this matter but for the dim shadows that are appearing heralding the advent of some fiscal arrangement by which all Irish moneys will be dealt with by a purely Irish Executive. If this should come about, whether by "devolution" or some more advanced and more stable scheme of reform, I should hope the demand for equitable consideration of each hospital in Dublin will be complied with.

I have only to add a few words to the students of what I am justified in calling a national institution. This hospital, if developed on the lines indicated in my Address, cannot but be ultimately associated with the progress of Medicine in Ireland. It may be that some of those whom I have the pleasure of addressing may play an active part in rendering it a pioneer in the advancement of that knowledge which is essential to the well-being of our race. With the most striking evidences presented to us of the almost illimitable powers of man's productiveness in every department of physical science, especially during the latter half of the century just passed, in which the record of wonders appears to have been reached, it is not likely that the Science of Medicine will stand still. There are indications that we are moving in the direction of some great discoveries in connection with the prevention and treatment of disease which will be no less startling than those of the physicist and chemist, with this distinction, that whilst they deal with material substances, our lot concerns alone the well-being of our own species—man. Our profession is not one that brings either ease or wealth in its train. To the vast majority of those who embrace it as a calling there is but little beyond a well-earned competence. But with its many drawbacks it has within it elements of human interests which contrast favourably with the sordid and debasing elements of other pursuits. We certainly, in our profession, have a great incentive to live up to Sydney Smith's noble ideal—Let every man be occupied, and occupied in the highest employment of which he is capable, and die with the consciousness that he has done his best.

ART. XX.—*The Evolution of Modern Surgery.*[a]

By F. CONWAY DWYER, M.D. Univ. Dubl., F.R.C.S.I.: Professor of Surgery in the Royal College of Surgeons in Ireland; Surgeon to the Meath Hospital and County Dublin Infirmary.

I HAVE been entrusted by my colleagues with the honourable and responsible task of delivering the Inaugural Address for the Session that has just commenced. My first duty is to return them my grateful thanks for the distinction, and to earnestly desire that I were better qualified to discharge it.

Before entering upon the discussion of the subject on which I purpose to claim your attention, another and a painful duty devolves upon me. The hand of death has been very busy in recent years in thinning the ranks of the staff of the Meath Hospital. The last to receive his summons was Sir Philip Crampton Smyly, one of the most widely known and respected members of the profession in Ireland. I had not the privilege of being his colleague in the hospital, and I am not, therefore, in a position to speak of his many excellent qualities with the knowledge that intimate association confers; but I knew him well enough to sympathise with the affectionate regret with which his memory is held by his fellow-workers and share with them their grief for his loss. Sir Philip Smyly was the grand-nephew, and for a short time the apprentice, of the great surgeon whose fame is one of the cherished traditions of the Meath Hospital, and whose name is indissolubly linked with the history of this place. He was the son of Josiah Smyly, also a distinguished member of the staff, and to whose munificent liberality we owe the endowment of the ward for children. Sir Philip Smyly proved himself worthy of his ancestry, and showed at an early age that in him the inherited qualities of the race were well marked. After a successful career in Trinity College he was appointed surgeon to the hospital in 1861. He was an able and conscientious teacher, whose aim was to impart solid and useful information rather than to make a vain parade of learning by the delivery of long orations at the bedside. His contributions to surgical literature were numerous and important, more especially in connection with diseases of the throat—of which subject he was the pioneer in this city—a branch of surgery for which his singular neatness and dexterity as an operator gave him a peculiar fitness. He combined in a rare degree the qualities of intellect, temperament, and manner that ensures success in our profession. To high professional attainments he added unfailing tact and courtesy, and with these aids and the charms of a singularly attractive personality his success was early and decisive. By his death the medical profession has lost a distinguished member, and his colleagues a sincere friend and loyal fellow-worker.

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[a] An Address introductory to the Session of 1904–1905, delivered at the Meath Hospital, on Monday, October 10, 1904.

To those students who come amongst us for the first time, and to those who are returning for further experience in hospital work, I extend on behalf of my colleagues and myself a very hearty welcome.

I have, after some consideration, selected as the subject of my remarks a well-worn theme—viz., The Evolution of Modern Surgery—and I feel I owe an apology to my audience for seeking to interest them upon a matter with which already they must be familiar; and yet it is one of enchanting and compelling interest; its comparatively recent origin and swift development, the entire revolution it has effected in our views as to the scope and method of treatment of surgical maladies, must be my excuse. A wider gulf exists between the surgery of to-day and that of a quarter of a century ago than between that period and the methods in vogue in mediæval times. To appreciate the radical change that has taken place in the domain of operative surgery a brief retrospect will be necessary. Less than thirty years ago there was absolutely nothing known about the essential causes of infective diseases. Vague speculations incapable of verification were readily accepted, mere hypothesis in whose support nothing tangible could be advanced found numerous adherents, and fierce controversies were indulged in by the partisans of this or that theory. Speaking of the views held at this time, Sir William Gull said: "We are carried back to the days of ignorance, when concoction and maturation were made to explain whatever was obscure." Tubercular disease was considered to be a diathesis; erysipelas to depend in some way on the weather; while tetanus and some other diseases were looked upon as visitations. Hospital wards were ravaged by septicæmia, pyæmia, phagedæna, &c.; in fact, sepsis in every form was present, and dogged the steps and foiled the efforts of the surgeon. It is, happily for the present generation, impossible to realise the awful mortality that supervened upon operations, even of the simplest nature. This state of things had the inevitable effect of restricting the sphere and limiting the utility of surgical interference. Few cases except those of an urgent nature were submitted to operation. As illustrative of the lamentable condition of our art at this time, Mr. Mayo Robson, in a recent address, said: "In Bartholomew's Hospital in 1870 there were three ovariotomies, all fatal, and twenty cases of hernia in which the sac was opened, with nine deaths." In the hospital reports of this period the causes of death are diffuse cellulitis, erysipelas, &c., and where the death took place very shortly after operation shock, which in all probability was acute sepsis. Viewed from our present standpoint this calamitous record was the direct result of the conditions under which operations took place. Mr.

Griffith, speaking at the annual meeting of the British Medical Association held at Cardiff, gave a vivid description of the hospital arrangements in his student days. "At this time," he said, "linseed meal and charcoal poultices were used to dress wounds and to encourage suppuration; laudable pus was the sign of a good dressing and healthy action. Each ward had its set of sponges, and these were used indiscriminately for the various cases under treatment. The operating theatre was crowded with students from the dissecting-room, and at the operation the great surgeon invariably wore, with evident pride, the same old black frock coat, buttoned up to the chin, and which was well stained and saturated with blood and discharges." But all this was soon to be changed, and that, too, from an entirely unexpected quarter. The new era dates from Pasteur's investigations as to the causes of fermentation and to his discovery of the part played by vegetable cells in producing the series of chemical changes which accompany the process. Carrying his inquiries further, he found that putrefactive changes were fermentative in character and caused by agencies of a like kind. It now remained to apply this discovery to the changes that took place in wounds, and to see how far inflammation and its consequences were due to similar causes. To Lord Lister belongs the credit of this expansion and development of Pasteur's theory. The bacterial origin of septic processes in wounds and injuries was proved, and now the problem was reduced to finding how far it was possible to keep blood serum and injured tissues in wounds free from living germs.

After laborious experiments, carried out with exemplary patience and earnestness, Lister convinced the most sceptical that septic changes could be prevented by the use of carbolic acid. From this epoch-making discovery dates the parting of the ways; the new surgery commenced its career, and its progress has been one of unchecked advance ever since. It is quite true that modifications of the original method of obtaining germ-free wounds has been found desirable, and our aim now is to secure conditions which render the use of strong antiseptics unnecessary. It is obvious that if a germ-free environment could be obtained, if all possible avenues of infection could be closed, the use of antiseptics could be dispensed with or reduced to a minimum, for these powerful germicides lower tissue vitality and are better kept out of a wound. This is a natural development of the Listerian system, and the evolution of the aseptic from the antiseptic surgery is one of direct logical sequence, and involves no change of principle. Perfectibility is of slow growth, as is very evident in the gradual transformation from the necessarily imperfect and rather clumsy appliances of the earlier days to the simplified technique now in use.

It is not my intention to weary you with a description of the means used to bring about sterilisation of instruments, dressings, &c., to ensure aseptic surroundings under which to operate. You will see all this in daily use in the hospital. I am anxious, however, to impress this fact upon you, that if you have grasped the principles of aseptic surgery, no complicated paraphernalia is needful to efficiently carry out its requirement: but it is absolutely essential you should bear in mind the manifold routes by which infection can travel, and guard them all. This will call for sustained vigilance and minute attention to detail. Herein lies a great part of the surgical art, and the necessary training is only to be acquired by practice, until the multitudinous details become, from frequent repetition, a matter of habit.

Under the stimulus of Lister's labours the progress of surgery was rapid and certain. This advance was everywhere in evidence, but was more especially manifested in the treatment of surgical affections of the abdomen. It was here that the earliest and most signal triumphs were achieved; a region formerly shunned, and interference with which resulted in disaster, was now freely dealt with, and with impunity. In quick succession every abdominal organ was submitted to surgical treatment. Take, for instance, the operation of ovariotomy. In the pre-antiseptic days the victims of this disease were condemned to a lingering death; palliative measures of the feeblest kind were all that the surgical resources of the period could do to alleviate their suffering. It is quite true that some few successful operations had taken place at the hands of operators who must have had, in addition to sound surgical instincts, great good luck and much hardihood. Such a one was Ephraim MacDowell, of Kentucky. This enterprising surgeon had many imitators, and a certain number of successful cases were reported. Still the mortality was deterrent, so much so that the operation was condemned as unjustifiable. What a contrast to-day! These cases are now operated upon by the thousand without a single fatality, and that, too, in the early stage, before the tumour has caused inconvenience or suffering. Results of an equally encouraging kind were found everywhere.

To take another example. Consider what has been done within the last few years for diseases of the kidneys amenable to surgical treatment. The late Sir Henry Thompson—an authority of world-wide repute—said, in discussing the possibility of removing stone from the kidney, that the prospect of affording surgical relief to the sufferers from this affection was small. He spoke and wrote most discouragingly, and altogether took a very pessimistic view of the future in this field of work. Under the protection of the new method of wound treatment the operation was very shortly afterwards—with complete success—performed, and has since become a standard one, and ceased to excite any special interest. The records of hospital and private practice conclusively prove that with increasing experience and recognition at an earlier stage a steadily diminishing mortality is obtained. In this connection I may add that I had the good fortune to assist at what I believe was the first successful operation of the kind performed in Dublin. Sir Thomas Myles was the operator. The stone was very large, and the extraction difficult. The patient, a young lad, recovered rapidly. Results of a like kind are found in the surgical treatment of other organs, notably in the cranial cavity, liver, gall-bladder, pancreas, and throughout the entire alimentary tract. The record is one of continuous and unbroken progress; each succeeding year marks an advance; every new achievement is the herald of some still bolder attempt to grapple successfully with disease. The new surgery, based upon proved scientific principles, guided by a technique that excludes disaster, and fortified by past successes, can, without fear, explore the inmost recesses of the body and efficiently deal with disease in situations hitherto deemed impossible. It is perhaps in the treatment of urgent conditions, in which life is placed in immediate peril, that the beneficent effects of the new surgery contrast so strongly with the older methods. In this field of work striking results have been obtained and innumerable lives saved. Within recent memory peritonitis was a word of dread import. The diagnosis was limited to recognising the facts that there was inflammation of the peritoneal lining of the abdomen, and as the cause was not known or sought it was inevitable that it should be called idiopathic, and it was duly so labelled, doubtless with that glow of satisfaction that accompanies the consciousness of well-directed diagnostic acumen —"idiopathic peritonitis." How final and satisfying! And the treatment—well, it was on a par with the rest. Mercury, leeches, opium—and the patient was narcotised into insensibility, and passed away. What a revolution has been effected by the more accurate views that now prevail, and how radically different the treatment. We now know that peritonitis is the result of the destructive action of different kinds of organisms, and that the low temperature and rapid pulse which appeared so anomalous from the old standpoint of inflammation are the clinical evidences of the absorption into the system of toxins—the results of bacterial agencies—and we then proceed to find out the source from whence these organisms gained access to the peritoneal cavity. By the systematic investigation of the history and mode of onset of the symptoms we find the cause of these peritoneal catastrophies to be due to appendicitis or gangrene of this structure, perforating gastric ulcer or some lesion of the intestinal tract, by which a communication has been established between the mucous and serous membranes.

The rest is simple. The abdomen is opened, the rent discovered and stitched up, or the appendix removed, the peritoneal cavity cleansed and the wound closed, or drainage established, as the nature of the case may require. That is the *rationale* of the treatment—stripped of technicalities—and a wonderfully simple and commonsense sort of procedure it must seem to you; and yet that very obvious way of managing such cases is the final result of the accumulated labours and experience of surgeons and pathologists for the last twenty years. The practical outcome of these views is very well shown in the treatment of perforated gastric ulcer. Until very lately all these cases terminated fatally. Now, by the early recognition and prompt interference, the mortality is—considering the gravity of occurrence—small. It rises steadily in exact proportion to the time that has elapsed before surgical help is obtained. If operated on at once the mortality would be trifling; if with twelve hours of rupture it would be 16 per cent., and if with twenty-four hours 60 per cent., and if delayed for forty-eight hours it is very rarely successful. Next in importance to the time limit in determining the issue is another factor:—Has or has not the patient in the interval been judiciously treated? If opium or purgation has been tried before the surgeon sees the case the outlook is distinctly bad. Nevertheless, all such cases should be submitted to operation, no matter how desperate, as to do otherwise is to deliberately withhold the only possible chance of life. And here it may not be amiss to remind the non-professional friends who honour us with their presence on this occasion that when a patient succumbs after an operation for one of the emergencies under consideration it is not the operation, but the delay in performing it, that is responsible for the fatal issue. Parenthetically I may add that the above statement is capable of a much wider generalisation. On an occasion such as this it is not possible to more than cursorily indicate the nature and scope of the advance made in the art and science of surgery. I shall select one or two other examples which vividly illustrate the great change that has been effected.

It is not too much to assume that everyone, medical and non-medical alike, has heard of a disease known by the wholly indefensible name of appendicitis, and yet—very familiar as the name appears to be—it is very lately that this affection, with all its complications and varieties, became the subject of effective treatment. This malady, which in its clinical manifestations ranges from a strictly localised form of peritonitis to the most destructive and rapidly fatal form of peritoneal infection, was until quite recently very little understood. It is now thoroughly well known, and countless lives have been saved by timely operation. It is sometimes said that the pendulum has swung too far in the opposite direction, and that operations are performed upon indications of insufficient gravity. The removal of the appendix has been denounced as a fashionable craze, a sort of fleeting surgical fashion which will soon cease to be the mode, and the advocates of the operation have been assailed in no measured terms. These are not the views of those entitled to speak with authority; all experience, pathological and clinical, proves beyond doubt that the proper course is to remove during a quiescent period—that is to say, after a first attack—this functionally useless and potentially dangerous structure. The operation under these circumstances involves no risk, and removes what at any moment may be a source of grave peril to life.

Let me glance for a moment at what has been done for surgical affections of the stomach. It is not my intention to recapitulate the brilliant series of successes that can be placed to the credit of our art in this sphere of work.

The treatment of pyloric stenosis, dilatation, and gastric ulcer, by the establishment of an intestinal anastomosis, are now recognised procedures of admitted utility in suitable cases. But you may not be prepared to hear that even certain forms of dyspepsia in which, to use the language of the advertisement, "physicians were in vain," have yielded to surgical intervention. It is now well known that certain disorders of the stomach are due to bands constricting the organ and hampering those movements necessary for complete gastric digestion. Many such cases have been submitted to operation with results which fully justified resort to such heroic means. And patients who have for years suffered from so-called dyspepsia, and who have run through the gamut of remedies, orthodox and otherwise, have found prompt and permanent relief at the surgeon's hands. I feel I am treading here on delicate ground, and I hasten to explain to my medical colleagues that I do not think every patient with dyspeptic symptoms should be wrested from the gentle care of the physician and have his abdomen incontinently opened.

Within the last few months a communication of remarkable interest and importance was read by Professor Mikulicz before the West London Medico-Chirurgical Society, in which he described the results of a series of experiments undertaken with the purpose of showing how far it was possible to prevent wound infection by increasing the natural powers of resistance to infective processes. While it is true that the aseptic treatment of wounds is able to cope efficiently with infection, it must be remembered that this applies only to wounds where the infection comes from outside. But take the case where the stomach or intestine is opened and a communication established between the peritoneum and tract, swarming with micro-organisms, with all our care we can only limit the amount of infective material that escapes, and were it not for the natural powers of resistance of the invaded tissues to deal effectively with a small dose of infection such operations would be impossible. Are there then any means by which this inherent resistant power can be increased? That has now been answered in the affirmative. Mikulicz has found that the injection of a 2 per cent. solution of nucleinic acid before operation raises enormously this power. He has proved this conclusively. This must be regarded as a discovery of the utmost practical importance, and one pregnant with future possibilities of the most valuable kind.

When all has been said about the progress that the last twenty years has witnessed, there is one dread disease the ultimate cause of which we are as yet in entire ignorance of, and if we are sometimes disposed to vaunt our successes too insistently, to exhibit something of a vainglorious spirit, our impotence in dealing with malignant disease ought to give us pause. In the entire category of "ills that flesh is heir to" there is none that inspires such horror as cancer—a word to be whispered with "bated breath" and, considering the futility of our means of dealing with it, "whispering humbleness." It is the veritable knell of doom. When the unhappy victim hears the sentence he is overwhelmed with the despairing consciousness that no reprieve is possible, that his fate is irrevocably sealed, and that the short remainder of his life in the fell grip of this awful malady must be one of lingering suffering. Up to the present the real nature of the organism, its origin, its life history, its mode of entrance into the human system, are not known.

The parasitic origin of cancer has not been definitely proved. Theories have been advanced, and to some extent supported by experimental proof, but the evidence is as yet insufficient to affirm anything definitely. In the matter of this vital importance probability will not do. Nothing short of conclusive proof can be admitted. The causation of cancer is now the subject of ardent investigation by trained experts in every part of the civilised world, equipped with the means of carrying on their researches by all the methods that modern science can place at their disposal. And surely it is not too much to hope—judging by what has been done in tuberculosis, diphtheria, &c.—that the quest will end in the discovery of the *causa causans* of this widespread scourge. Till that result is obtained we must possess our souls in patience and retain our attitude of passive expectancy. We know that in other sciences questions which have baffled the ages have been answered not by happy guesses or sudden inspirations, but by trained and patient inquiry. While fully aware that prophecy is the most gratuitous form of fatuity, I yet venture to hazard the opinion that the solution is one that the near future will bring forth.

An old established custom has ordained that occasions like the present should be utilised for the purpose of conveying in appropriately solemn language large quantities of wholesome advice to the medical student, and many a well-meant homily has been delivered with this laudable purpose. I am conscious of not possessing the requisite aptitude for this *rôle*, and, besides, I think it at the present day unnecessary. The custom in question is a survival of the time when Mr. Bob Sawyer was the accepted type of his class. He is gone, quite as much as Sairey Gamp, and how entirely extinct that gentle ministrant is can best be realised by contrast with the trained nurse of our time.

The medical student has my sincere sympathy. He is the most lectured, examined and generally harassed member of the student class. It is by no means an easy task to complete the required curriculum in the prescribed time. No student can afford to be idle. His entire time is occupied by hospital, attendance upon lectures, and in preparing for the various examinations. Failure to pass is penalised in time and money. The increased difficulty in obtaining the necessary qualifications has operated beneficially in many ways. It has brought better educated men into the ranks than were formerly found, and has raised the standard of general education and professional efficiency in a marked manner.

I freely admit that there is much to repel, even to disgust, the student—often a mere lad from school—who for the first time sets foot in the dissecting-room or operating theatre of the hospital. His natural instincts are revolted by close contact with disease and suffering, and then the study of anatomy cannot at the outset be described as alluring. If he be of a sensitive disposition perseverance for the first few months requires some fortitude. But if he is made of the right mettle all this soon passes off. He begins to take a keen interest in all that he sees and hears, for there is no study that possesses the same fascination as that of medicine, which is concerned with the solution of problems of pressing interest for all humanity. I earnestly desire to impress upon you the paramount importance of diligent attendances at hospital, for that is the place where you will learn the business of your future lives. The only true foundation for the knowledge that is of any avail in helping us to treat disease efficiently is that acquired at the bedside. In the wards of the hospital you will learn the art of physical examination and develop the faculty of observation—an absolute essential for the practical appreciation of the relative values of physical signs and symptoms. Do not be discouraged by the difficulties you will meet; such are inevitable at the commencement of a study which embraces so extensive a field as that of Medicine. In a surprisingly short time—considering the intrinsic complexity of the subject—a certain skill is acquired in the recognition of the more frequently recurring types of disease, and this acquisition gives confidence and creates interest. Systematic case-taking is valuable; it teaches accuracy and encourages self-reliance by making the student an independent investigator. A diagnosis is a conclusion drawn from certain premises, and the art of accurate diagnosis implies the necessary skill in eliciting the data from which to draw the conclusion. And remember that this kind of training cannot be derived from books; no amount of reading can supply deficient hospital experience. Believe me, it is by the wise use of the few years devoted to hospital work that your future will be chiefly influenced.

I attach very little importance to the parrot-learning of the student who contents himself with reading and neglects his hospital. Such a one may answer an examination paper fairly well and reply glibly enough at the oral, and be unable to diagnosticate a simple case at the bedside. Cases of this kind are familiar experience with examiners. Consider the awful consequences want of practical knowledge may entail; the issue of life and death may be in the balance, and the penalty of error is lifelong remorse. I can imagine no more pitiable plight than that of the medical man who from culpable ignorance fails in the management of a case which, with ordinary skill, should have had a different issue.

Having triumphantly passed the examinations, a very important question presents itself for decision—namely, the selection of your future field of work. Do not be precipitate in this matter. While deeply sympathising with the natural and manly desire of recently qualified members of the profession to become self-supporting as soon as they possibly can, I deem it my duty to warn them against hastily adopting the first means of obtaining a livelihood that presents itself. The choice is for them a momentous one, and will, in all probability, prove the determining factor in their future career. This especially applies to appointments in the Irish Poor Law Medical Service as at present constituted. You are all familiar with the agitation for the redress of the evils under which the service labours at present so ably carried on by the Irish Medical Association. It is not my intention to discuss these grievances at any length; suffice it to say that they are manifold. The service is a hard, thankless, and unremunerative one, and the marvel is that the attempt to procure a remedy for the existing state of things was not entered upon long since. The time for action has now arrived. A vigorous, and I rejoice to think a successful, effort is now being made to arouse members of our profession from the apathy and supineness which have hitherto characterised their attitude towards those of our brothers who have so long and patiently endured the intolerable hardships and disabilities of life in this service.

The demands formulated by the Irish Medical Association are moderate and reasonable. They ask for a living wage, a few weeks' holiday in the year, and a modest pension when no longer physically able to satisfactorily discharge their hard task. That, surely, is a modest minimum, and it seems incredible that claims so temperately urged and of such manifest equity should meet with such determined opposition. We are told, amongst other things, that the law of supply and demand regulates professional remuneration. Well, it is in your power to regulate the supply of those applying for posts in this service, and you can best do this by becoming members of the Irish Medical Association and loyally adhering to the conditions prescribed by that body. I am not in the least afraid of the reproach of trades unionism, and if we are compelled to resort to combination to obtain redress for existing grievances it will be because all other means have been tried and failed. Combination under these circumstances is defensive, and, as such, perfectly legitimate. Pause well before entering this service. Fortunately, there are many other careers open to men of enterprise and capacity, and you should weigh well the consequences of bartering your future for the uncommonly scanty mess of pottage grudgingly doled out by the combined liberalities of the Local Government Board and the Poor Law Guardians.

There are many fields of active work open to you—such as the Army and Navy Medical Services, the Indian Medical Service, the Colonies, and practice in England, where professional competence and industry are certainly better rewarded than in the service under consideration. It is, of course, a matter of deep regret that so many should be compelled to seek fortune outside their native land; but facts are stubborn things, and if you must go remember thankfully that you have a British Empire ready-made by a kind Providence for the special benefit of many Irishmen and some Scotchmen.

And just one word in conclusion. You aspire to become members of the most arduous and exacting of all professions. The onerous demands of medical practice furnish incentives of the most stimulating kind to continual industry, to the ceaseless acquisition of professional knowledge. It will be your duty to keep yourselves abreast of the ever-advancing tide of Medical Science. To acquit yourselves worthily will call for whole-hearted and zealous devotion to work. Now is the time to prepare yourselves to meet with confidence and that self-reliance that conscious efficiency gives the labours and responsibilities of your future lives.

LITERARY NOTE.

MR. HENRY J. GLAISHER, of Wigmore-street, has just published "X-rays: their Treatment in Cancer and other Diseases." By R. J. Cowen, L.R.C.S.I., L.R.C.P.I., &c.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Fitz-Patrick Lectures for 1903. English Medicine in the Anglo-Saxon Times. Two Lectures delivered before the Royal College of Physicians of London, June 23 and 25, 1903. By JOSEPH FRANK PAYNE, M.D. Oxon; Fellow and Harveian Librarian of the College of Physicians; Fellow of the University of London; Consulting Physician to St. Thomas's Hospital; sometime Fellow of Magdalen College, Oxford. Oxford: at the Clarendon Press. London, Edinburgh, New York and Toronto: Henry Frowde. 1904. Demy 8vo. Pp. viii + 162.

DR. PAYNE was well qualified to write and deliver these Lectures on "Medicine in the Anglo-Saxon Times." The Harveian Orator in 1896, when he chose as his subject "Harvey and Galen," writer of the articles "History of Medicine" and "Plague" in the *Encyclopædia Britannica*, author of the lives of Linacre and other worthies of old time in the *Dictionary of National Biography*, and also author of the "Life of Sydenham" in the "Masters of Medicine" series, Dr. Payne brought to the accomplishment of his task a wide experience and a practised pen.

These Lectures remind us that there is still in the ranks of the Medical Profession a band of learned men who are not unwilling to spend time and toil in culling from the records of the past materials for a History of Medicine in early times.

Dr. Payne is the first Fitz-Patrick Lecturer. It will interest all Irish readers to hear how he explains briefly the origin and aim of this new foundation. In the opening sentences of his first lecture he says:—"This Lectureship owes its existence to the munificence of a lady, Mrs. Fitz-Patrick, who desires in this way to honour the memory of her late husband, Dr. Fitz-Patrick, member of this College [the Royal College of Physicians of London], a physician of great worth, learning, and accomplishments, and at the same time to promote an object in which Dr. Fitz-Patrick himself was much interested, the advancement of the study of Medical History." Then follows an appreciative notice of Dr. Fitz-Patrick from the pen of his intimate friend, Dr. Norman Moore. From it we learn that Dr. Thomas Fitz-Patrick was born in 1832 at Virginia, Co. Cavan. Educated at Carlow, he afterwards graduated in Arts and Medicine in the University of Dublin. His first professional appointment was that of Dispensary Medical Officer of Moynalty, Co. Meath. He afterwards entered the service of the East India Company. His health, however, broke down in India, and he soon returned and settled in London, where he practised for many years. "He was a man," writes Dr. Norman Moore, "imbued with learning, well read in Homer and in Lucretius, and a student of the Spanish text of *Don Quixote*. Besides Spanish, he knew Italian, French, and German, as well as something of Hebrew, of modern Greek, and of Danish. His knowledge of English literature was extensive, and his taste good. He had travelled as well as read, and having thus accumulated all the materials for conversation, he was a delightful companion." We should not omit to mention that Mrs. Fitz-Patrick founded a Scholarship in Trinity College, Dublin, in November, 1901, in memory of her husband. It consists of the interest of £1,000, and is awarded each year to the medical student who obtains the highest aggregate marks at the five Sections of the Final Professional Examinations in Medicine, provided he has completed his medical course in the prescribed period of five years.

Amongst the subjects dealt with in these Lectures are the following:—

I.—(1) The General History of Medicine in England; (2) That of Anglo-Saxon Medicine, with historical references; (3) The Venerable Bede; (4) Death and Burial of St. Ædilthryd; (5) The Anglo-Saxon Medical Literature; (6) The Leech-Book of Bald; (7) The Herbarium of Apuleius, and the Figures of Herbs; (8) English Names of Herbs.

II.—(1) Anglo-Saxon Surgery; (2) Charms and Superstitious Medicine; (3) Anglo-Saxon Charms; (4) Charms and Ceremonies employed in Gathering Herbs, &c.; (5) Verbal

Charms; (6) Exorcism of Diseases; (7) Narrative Charms; (8) Material Magic or Amulets; (9) Transference of Disease; (10) Miscellaneous Charms; (11) Virtues of Worts.

III.—(1) The Treatise "*ΠΕΡΙ ΔΙΔΑΞΕΩΝ*" (English Names of Herbs); (2) The Salernitan "Practica"; (3) The Last Period of Anglo-Saxon Medicine; (4) Healing by the Royal Touch.

Dr. Payne handles his subject with great skill, and his book is well illustrated. The frontispiece is a facsimile of a leaf containing the concluding sentences of Book I., and the beginning of the list of chapters of Book II. of the "Leech Book of Bald," believed to have been written between A.D. 900 and 950.

There is little to criticise in these Lectures, but we certainly think that "fellon" (page 132) is a poor translation of "onfall," which is the exact English equivalent for epilepsy. The Rev. Oswald Cockayne, not Dr. Payne, seems to be responsible for the rendering "fellon."

Elements of General Radio-therapy for Practitioners. By DOCTOR LEOPOLD FREUND, Vienna. Translated by G. H. LANCASHIRE, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond.; Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. New York: Rebman Co. 1904. Pp. 526.

THIS book deals with radio-therapy in its several branches of high-frequency currents, X-rays, Becqueral-rays, heat and light rays. (The English edition now before us includes also a useful account of the instruments involved, by Clarence A. Wright, F.R.C.S.E., F.F.P.S.G. 59 pages, with 86 illustrations.)

The author, Dr. Freund, presupposes but little knowledge on the part of the reader. The first 80 pages are therefore devoted to the elements of electricity, in which are described condensers, batteries, induction coils, and the general electrical principals used in radio-therapy.

The author then treats each branch separately and on similar lines. A history is given of its development, with an account of the instruments used. He quotes numerous experiments of his own and others on bacteria, plants and animals. These experiments include an account of the microscopical appearances produced on normal and pathological tissues in man and other animals. The descriptions of the technique in the various methods, with the indications for treatment and the results to be expected, are most complete and to the point. The book contains over 100 illustrations.

In the section on treatment with high frequency currents the descriptions of the various instruments appear somewhat involved. The author gives an account of some 50 experiments he performed on bacteria and rabbits. Summarising from a survey of the physiological and clinical effects of high tension electricity the author says:—"We have seen that the method possesses certain valuable properties (bactericidal, desiccating, anti-pruritic) which are of advantage in several skin diseases; we have found, however, that its virtues are not so pronounced that older and more approved methods may be disregarded. Nevertheless, due attention must be paid to a new department which has undoubtedly enriched our therapeutic resources, trusting that in time it may receive the improvement and scientific development which it now so greatly lacks."

In the section dealing with X-rays the author claims the origin and development of Roentgen-therapy of the skin (from an experiment on its depilatory effects), and to have first pointed out the accumulative action of X-rays. X-ray reactions and dermatitis are treated of very fully. This part of the book indeed appears to be the most deserving of careful study.

A short account of Becqueral rays follows. The author admits that "we require further experience before we can determine how far these rays are of practical therapeutic value." It may be remarked that the negative effects obtained by him with radium have not generally been supported.

Coming to the subject of photo-therapy, after some reference to the theories of the nature of light, the author treats of the effects produced by different rays of the spectrum on bacteria. plants and the higher animals. Sun-baths, chromo-therapy and Finsen treatment are described.

Dr. Freund's work will be found of general interest and of particular usefulness to those who study this branch of the medical profession. The book is perhaps too much encumbered by numerous references to the experimental work and the views of various authorities. This feature, while possibly of value to those who are engaged in original investigations in this branch of science, and who require to know all that has been done, is yet confusing to the general reader. But it must be borne in mind that the subject is to a large extent in a state of development, and has not attained the stage at which observations can be grouped and treated under general laws.

Municipal Shortcomings: A Series of Articles Contributed to the "Liverpool Journal of Commerce." By T. MYDDLETON SHALLCROSS. London: Elliot Stock. 4to. Pp. 60.

IN a series of 25 extremely well-written articles Mr. Shallcross here points out to the public the various shortcomings of the legislative authorities of the city in whose welfare he shows himself so much interested with regard to the maintenance of hygiene and sanitation in its dwellings and in its streets. He points out, for instance (in Article 4), that although some lamp-posts support tablets bearing the legend:—"City of Liverpool. Persons are requested to refrain from Spitting on the Footwalks. By Order of the Health Committee, Public Health Department, Liverpool, November 14th, 1901"—nobody seems to respect the request, and the policeman sets the example of public contempt by the intermittent projection of his own saliva! This is surely not as it should be; and now that science and sanitation are permeating the minds and habits of all ranks and conditions of society, we feel assured that reformation will progress, surely if slowly. Mr. Shallcross has performed a very important part of volunteer public duty by calling attention to the shortcomings of sanitation as administered in Liverpool. His criticisms include such items as cooking of food, the adulteration of the same, the proper form of kitchen, milk, water, clothing, even cleanliness, neglect of scientific discoveries useful to public health (radio-activity, &c.), and quite a host of collateral and et-cætera items. We congratulate the writer on his single-handed crusade, and earnestly pray that other observant and capable persons may go and do likewise to their own Corporations.

Enlargement of the Prostate: its Treatment and Radical Cure. By C. Mansell Moullin, M.D. Oxon., F.R.C.S.; Senior Surgeon and Lecturer on Surgery at the London Hospital; Member of the Council of the Royal College of Surgeons; Examiner in Surgery in the University of Cambridge; Late Radcliffe's Travelling Fellow, Fellow of Pembroke and Examiner in Surgery in the University of Oxford; and Hunterian Professor at the Royal College of Surgeons. Third Edition. London: H. K. Lewis. 1904. Pp. 204.

During the time that has elapsed since the first edition of this monogram made its appearance a considerable change has taken place in connection with the surgical treatment of prostatic hypertrophy. This is more especially noticeable within the past four years. Freyer, by his work, was largely responsible for this state of things. It is in the chapter devoted to the radical treatment that the principal changes are to be found in the edition of the work before us. In a third edition of a book it is unnecessary to do more than notice whether modern improvements are embodied and obsolete matter deleted. This has been done in the present case, and the work presents everything in connection with prostatic enlargement that the surgeon could desire.

Diseases of the Stomach and their Treatment. By A. W. Mayo Robson, F.R.C.S., and B. G. A. Moynihan, M.S. Lond., F.R.C.S. Second Edition. London: Baillière, Tindall & Cox. 1904. Pp. 508.

In the three years that have elapsed since the appearance of the first edition of this work the surgical treatment of various gastric conditions has been one of marked activity. The amount of literature on the subject that has since appeared has been very remarkable. That a new edition of this work of Robson & Moynihan should be demanded is therefore not surprising. The volume before us is larger by 200 pages than its predecessor. Almost every chapter shows evidences of revision and enlargement, while some are entirely re-written. In speaking of posterior gastro-enterostomy in the former edition the authors could only give 40 cases for simple disease, with but two deaths, equal to 5 per cent. mortality, while in the present edition, since June, 1900, they can tabulate 218 operations for simple disease, of which 211 recovered. This gives a present mortality of 3.2 per cent. On the other hand, the mortality following posterior gastro-enterostomy for malignant disease in the former edition appeared as 44 per cent., while in the present edition this mortality has fallen to 10 per cent.—a very striking difference. Of course this is mainly due to improved technique, more extensive experience, and consequently greater rapidity in performance. In the present edition the authors place less reliance upon pyloroplasty as a radical procedure for dilatation due to simple stenosis, as cases which showed immediate brilliant results after this procedure had been carried out after a period of 18 months or two years tended to relapse. Professor Finney's new method of performing pyloroplasty is described and illustrated. The authors prefer to give it the title of gastro-duodenostomy. Would it not be more correct to designate it "gastro-pyloro-duodenostomy"?

The chapter on gastrorrhagia is one that is practically re-written. Those acquainted with Mr. Moynihan's writings in *The Lancet* and elsewhere on this subject will be already familiar with the authors' views as presented in the chapter devoted to it in the present edition.

In the section devoted to perforation too much prominence could not be given to the important paragraph in which it is stated that two or more perforations are found in 20 per cent. of the recorded cases. In our own practice this condition of double perforation has been met with in no less than 50 per cent. of the cases.

Gastroplication is still described as an operative procedure for the treatment of atonic dilatation of the stomach. In our opinion it might easily have been deleted without detracting from the value of the work. We do not think it an operation which will ever take any place in surgery.

Gastric tetany has had a chapter devoted to it in the volume before us. The recent researches in connection with its causation are fully discussed. In the first edition the authors recorded 18 cases of hour-glass stomach upon which they had operated. In the present edition they are able to record no less than 41 cases of this condition. The results of their operations for this—to us—rare condition are:—Simple cases, 35 operations, with 30 recoveries; malignant, 6 operations, with 4 recoveries.

It only remains for us to congratulate the authors. The work is one which we strongly recommend to physician and surgeon alike.

Manual of Practical Ophthalmology. By GEORGE A. BERRY, M.B., F.R.C.S. Ed. With 123 Illustrations, mostly from Original Drawings. Edinburgh and London: Young J. Pentland. 1904. 8vo. Pp. 570.

IN 1889 Dr. Berry wrote "Diseases of the Eye," being the second volume of "Pentland's Medical Series." This we reviewed most favourably.

Dr. Berry has now published the volume under review, which is one of "Pentland's Students' Manuals." The size and price of the volume have been reduced, and though it is ostensibly a manual for students, many things which the student might easily wish to know have been omitted. The author, in his preface, states that he practically has written the book, not because the latest developments of the subject were either very extensive or very important, but in order to give expression to his (the author's) individual experience as regards diagnosis and treatment.

A book which reflects the individual practice of any man is always interesting reading, and usually instructive reading too; and in both these respects Dr. Berry's manual is no exception to the rule, but as a guide for students or practitioners who have no other book to consult, it has the inevitable disadvantage of manifest limitation in certain directions.

No mention whatever is made, as far as we can see (for the index is miserably insufficient), of so interesting a disease as filamentous keratitis, for instance. Nor can we find any mention of such valuable therapeutic agents as xeroform, dionin, adrenalin, argyrol, or sub-conjunctival injections; nor can we find the Light or X-ray treatment of malignant disease of the lids mentioned, nor yet any mention of the localisation of foreign bodies in the globe and orbit by the X-rays; and, strangest omission of all, the surgical treatment of high myopia finds no place in the practice of Dr. Berry.

The transplantation of mucous membrane from the lip for the cure of entropion and trichiasis, found so valuable in this country, is mentioned only to be condemned, and no account of the operation is given. Most of the illustrations are good, but as in many cases they are re-productions in black and white of the coloured illustrations of his former book, they are not very illuminating or instructive.

On the whole, we feel disappointed in Dr. Berry's most recent production, for he has led us to expect more from his pen.

The Student's Handbook of Surgical Operations. By SIR FREDERICK TREVES, Bart., K.C.V.O., C.B., LL.D., F.R.C.S.; Sergeant-Surgeon-in-Ordinary to H. M. the King; Surgeon-in-Ordinary to H. R. H. the Prince of Wales; Consulting Surgeon to the London Hospital. New Edition, revised by the Author and JONATHAN HUTCHINSON, Jun., F.R.C.S., Surgeon to the London Hospital; Examiner in Surgery Royal Army Medical Department. With 121 Illustrations. London: Cassell & Company, Ltd. 1904. Pp. 486.

THIS volume, which is abridged from the author's "Manual of Operative Surgery," the second edition of which was recently reviewed in this Journal, is so well known by students that it is quite unnecessary for us to do more than announce the fact that the revised edition is now ready. We are, however, tempted to make one criticism, and it is with regard to the number and nature of the illustrations. Their number is, in our opinion, far too limited, and we think a better selection might have been made. Good and plentiful illustrations are a tremendous help to students in learning operative surgery, but this is just what almost every British text-book on Operative Surgery is defective in. Surely these defects can be remedied. Better increase the cost of a book by increasing its value to the student in the manner indicated than drive him to expend his money on the products of foreigners. The merit of a book is to be judged by the amount of originality it contains; let this appear in the nature of illustrations as well as in the nature of the context.

Medical Monograph Series. No. 9. Adenoids. By WYATT WINGRAVE, M.D. London: Baillière, Tindall & Cox. 1904. Pp. 128.

THE name of the author is sufficient guarantee that good, sound work will be found in this monograph. Much has been written about adenoids, and to those who wish for a clear, concise account of their ætiology, course, and treatment no better book could be recommended.

Guide to the Examination of the Throat, Nose, and Ear. By WILLIAM LAMB, M.D.; Hon. Surgeon, Birmingham Ear and Throat Hospital. Crown 8vo. Pp. 152.

AS a rule, when reading over a work intended for beginners one finds the author starts with the intention of rudimentary instruction, but as he warms to his subject more detail is inserted than can be accommodated within the scope of the work, and thus other valuable material is crowded out. Dr. Lamb has succeeded in avoiding this, and provides a most useful book—simple, sufficient, and pleasantly written. A student who has read this is fit for instruction and can appreciate points which otherwise would be beyond his range. This "Guide" can be strongly recommended to teachers for their pupils, and the reviewer will certainly suggest to his class the advisableness of reading it.

Elementary Ophthalmic Optics. BY FREELAND FERGUS, M.D. London: Blackie & Sons. 1903. 8vo. Pp. 107.

THE aim of this book, the author tells us, is to set forth in a clear and simple manner those portions of physical and geometrical optics which he considers essential to the medical student beginning his ophthalmic studies.

The subject of physiological optics is not discussed, since that branch of ophthalmic study is, as a rule, sufficiently explained in text-books dealing with diseases of the eye. His endeavour has been to give in one volume all the information necessary for the beginner, and, therefore, he has placed in the introduction those parts of plane trigonometry which he requires.

The book is well printed and freely illustrated with drawings, is clearly and concisely written, and any student who masters all that it contains will be far better equipped with this special information than most of the specialists with whom he will come in contact. The book deserves to be a success.

International Clinics. Volume II. Fourteenth Series. London: Lippincott. 1904. Pp. 314.

THE feature of this volume is a section on tropical medicine. The chapter on malaria contains an excellent series of illustrations of various kinds of gnats, with their larvæ. Tripanosomiasis is fully described. Dr. Jarvis (New York) gives an account of the sleeping sickness, which includes the recent discoveries concerning this disease. Smith (Philadelphia) contributes a full account of *Drochmius duodenalis* (uncinaria) and the diseased states caused by it. Cantlie (London) and Thompson (Texas) write on liver abscess.

Of the other section, Bierring (Iowa) writes on the gastrointestinal form of arterio-sclerosis. He finds that atheroma of the gastric arteries may cause loss of appetite, want of HCl in the stomach, delayed proteid digestion, and pain; while the intestinal variety may be responsible for abdominal pain, flatulence and constipation—the symptoms resemble those produced by ulcer or tumour. The paper is interesting, but somewhat inconclusive, as several of the cases were not verified by *post-mortem* examination. There is a well illustrated paper by Rugh (Philadelphia) on the non-operative treatment of ankylosed joints.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—**Sir Thornley Stoker**, M.D., F.R.C.S.I.
General Secretary—**James Craig**, M.D., F.R.C.P.I.

SECTION OF PATHOLOGY.

President—**H. C. Earl**, M.D.
Sectional Secretary—**Arthur H. White**, F.R.C.S.I.

Friday, October 28, 1904.

The President in the Chair.

Lymphatic Leukæmia.

Professor E. J. McWeeney, M.D., read a paper entitled "Hæmatological Observations on a Case of Chronic and one of Acute Lymphatic Leukæmia."

Case I.—The first case was that of a man, aged fifty-five, admitted to the Mater Misericordiæ Hospital on September 2nd, suffering from splenic tumour, glandular enlargement and asthma. The most remarkable point in the previous history was an injury to the left side of the abdomen, sustained last January, after which a sensation of discomfort developed—a possible traumatic origin being thus suggested. The cervical glands began to enlarge about Easter; the splenic tumour was first noticed in May. Blood-count on admission: R., 3,908,000; W., 163,000. Two days later the count was R., 2,848,000; W., 206,000. The differential count yielded polymorphs, 7.8; large mononuclears, 2.3; lymphocytes, 89.5; eosinophile and mast cells, 0 per cent.; a few normoblasts. On September 25th he developed lobar pneumonia, to which he succumbed on the 28th. There was no diminution of the total leucocyte count consequent on the infection, and no increase of polynuclear elements in the peripheral blood on the day preceding death. The count on that day was R., 3,048,000; W., 332,000; percentage of mononuclears, 92.4. On the other hand, the blood taken from the lung at the autopsy, twelve hours after *post-mortem*, yielded 20.5 per cent. of polynuclears, as well as 0.5 per cent. of eosinophiles, and 3.5 per cent. of myelocytes, neither of which could be found in the peripheral blood during life. The spleen weighed 51 oz., was marbled with red and grey patches, and contained infarcts. Microscopically the trabecular system was much reduced, and the follicles were obliterated by a uniform distribution of rather large mononuclear elements. Mitoses were hard to find; there was much iron-containing pigment; no giant cells. The glands were all much enlarged, highly vascular, distinction between follicles and sinus obliterated; mitoses numerous. The marrow of the femur and humerus was of the normal character; that of the sternum was lymphoid. The liver (283 oz.), kidneys and suprarenals showed typical lymphoid infiltration. The absence of blood change consequent on pneumococcal infection and the absence of the marrow change were the two most interesting features of the case.

CASE II.—*Acute Lymphatic Leukæmia.*—Patient was a boy, aged nine; six weeks ill on admission, with moderate fever (100° to 101°); swollen glands, epistaxis and great prostration. The spleen was moderately enlarged, as was also the liver. Petechiæ on skin of abdomen and legs. Blood-count on admission: R., 1,898,000; W., 212,000; lymphocytes, large and small, being 98 per cent., with only 0.5 per cent. of polymorphs. Many of the lymphocytes showed signs of degeneration. On puncturing the skin through a droplet of Unna's polychrome methylene blue, their nuclei took the stain at once. No hard and fast line of separation could be drawn between small and large forms; the latter were very labile. Eosinophile and mast cells absent; normoblasts in small numbers; megaloblasts absent. The case ran a rapid course, the boy dying nineteen days after admission from the uncomplicated disease. Blood-count on day of death was, R., 820,000; W., 723,000, 99.5 per cent. of which were lymphocytes. Several fields had to be searched before a polymorph was encountered. At the autopsy (three hours after death) the heart was distended with puriform blood. Thymus much enlarged; weighed 46 grammes. All the serous membranes covered with petechiæ. All the glands were moderately enlarged, soft and hyperæmic, but not confluent. Spleen (12 oz.) seemed almost normal, save for the enlargement. Liver enlarged with enormous leukæmic infiltrations, the intralobular capillaries being literally plugged with lymphocytes. The kidneys were also most extensively infiltrated, and presented a very peculiar appearance. The lymphoid structures of the intestine were enlarged. The marrow of the femur and tibia was hyperæmic and typically lymphoid (splenoid of von Ziegler). It consisted almost entirely of large peculiarly labile lymphocytes. Normoblasts frequent, megaloblasts few. Coarsely granular cells absent. The blood was examined bacteriologically ten days previous to death, 5 cc. being withdrawn from a vein near the elbow and placed in a flask containing 500 cc. of ordinary peptone broth, and incubated. No growth occurred, and after four days the blood cells seemed unaltered in the sediment. No trace of protozoa. This case afforded a highly favourable opportunity for the study of acute lymphæmia, as the autopsy was complete, and the tissues were fixed within five hours of death. The paper was illustrated by numerous microscopic preparations and coloured drawings, as well as by the specimens preserved at the autopsy.

PROFESSOR WHITE said that during the past year he had seen a case of the so-called spleno-medullary leukæmia in which there was apparently a direct connection between an injury and the disease. The patient fell down the hold of a ship, and hurt himself about the abdomen, but was able to work on for a fortnight, after which he went into hospital, and died in a few weeks of leukæmia. Another point in Professor McWeeney's case was the fact that the patient died so quickly of pneumonia. In one of the cases of leukæmia (common variety) he had seen, the patient, a woman, left hospital to go home, but missed her train and had to come back; she almost immediately developed a sharp attack of erysipelas, and died in twenty or thirty hours, showing the little resistance these patients have against infectious diseases. With regard to Hodgkin's disease, he did not think it was typical to find giant cells, and believed that when giant cells were found we were probably dealing with some chronic infection, possibly tuberculous, instead of Hodgkin's disease.

DR. CRAIG said that Professor McWeeney's cases rather upset the ordinary clinical teaching; for instance, he had been accustomed to teach that the increase of leucocytes was not so great in lymphatic as in spleno-medullary leukæmia, but Professor McWeeney had said that in the acute case, at least, the red and white corpuscles were almost equal in number. Another point was that myelocytes were never present in lymphatic leukæmia. With regard to the case of acute leukæmia, he said it was of special interest, because occasionally this disease occurs among children, and when the enlarged glands appear they are supposed to have acute general tuberculosis.

Dr. **Earl** agreed with Dr. McWeeney as to the presence of giant cells in Hodgkin's disease, and he was certain that in the two or three cases of real Hodgkin's disease which he had examined he had found glands which were not those of tuberculosis.

Dr. **McWeeney**, in replying, said that Professor White's observation as to the traumatic origin of a case of the spleno-medullary variety was very interesting, especially the short duration. The case would appear to have been acute myolæmia, which is very rare, whereas lymphæmia is sometimes acute, but he was not certain that any acute spleno-medullary cases had been recorded. With regard to his statement about the presence of giant cells in Hodgkin's disease, he based it on a report of the pathologist of the Ayer Pathological Laboratory, who had examined fifteen cases of the disease, and had met giant cells which it was easily seen were not tuberculous. They arose from some irritation of the large endothelial plates in lymphatic glands. In Germany Hodgkin's disease is called pseudo-leukæmia, as the patient looks as if he is going to have it. If the same cause produced Hodgkin's disease as produced leukæmia, then one would expect to find giant cells in the glands; but one does not. The explanation sometimes given is that in Hodgkin's disease, owing to some peculiarity of the capsule of the gland, the greatly increased lymphoid cells in it and in the sides of the gland are so pressed on that they cannot get out into the blood; whereas, if the same stimulus attacks a gland with soft sides, &c., the new lymphocytes do get out, causing leukæmia. With regard to Dr. Craig's remarks, he said it was very hard to stick to both the pathological and clinical aspects, but there could be no doubt that there are many cases of lymphatic leukæmia which give very large counts. Myelocytes were always present in lymphatic leukæmia, but they wanted looking for.

Aortic Aneurysm Perforating the Œsophagus.

Dr. **Matson** showed a specimen of the above taken from a woman, aged fifty. History of alcoholism, but none of syphilis. Patient had been subject to attacks of rheumatic fever. Two years ago she had an attack of bronchitis, in which she expectorated a good deal of blood.

Dr. **Travers Smith** asked did the patient vomit blood ?

Dr. **Craig** said that during the past year he had seen two cases. The first was a man complaining of symptoms referred to the stomach. He left hospital and came back in a dying condition with an aneurysm which ruptured into the œsophagus. The second case was one which he had met with seven years ago, and six years ago he read a paper stating that this patient with an aneurysm of the innominate artery had been cured. He then went about in good health, having only some dulness at the right of the sternum and at the inner end of the right clavicle. During April of the present year this gentleman died suddenly in bed, and the *post-mortem* report showed that an innominate aneurysm was present. It was the size of an apple, and had walls an inch thick. The dilated portion still contained some blood in the centre. It was solid outside, and was adherent to the sternum, which it had half eaten through. In the descending part of the arch of the aorta was an aneurysm the size of a child's head. It had burst into the œsophagus, the latter, with the stomach, being full of blood. This patient had been cured of the innominate aneurysm, had gone about for seven years, and had grown fat and lived a healthy open-air life, but how long the second aneurysm existed was not known. This case was of interest from the sequel.

Dr. **Matson** said, in reply, his patient vomited a considerable amount of blood, and there was a good deal of blood in her stomach.

Aortic Aneurysm Rupturing into Pleura.

Dr. **Gillman Moorhead** exhibited a case of aneurysm of the aortic arch, which had ruptured into the pleura. The specimen was obtained from a man, aged thirty-five, by occupation a sailor, and who had contracted syphilis ten years previously. The only symptom complained of was that of cough. Rupture occurred suddenly during sleep after the patient had been under treatment for four days. Almost the entire wall of the sac was necrotic, brittle and very thin, and only a small amount of soft clot was present. One hundred ounces of blood were found in the left pleural cavity. The curious point about the case was that rupture had not occurred while the patient was at work, as he had been up to within a week of his death.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Univ. Dubl.;
D.Sc. Oxon.; F.R.C.P.I.; F.R. Met. Soc.
Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, November 5, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending November 5, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 19.0 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, November 5, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Oct. 15	Oct. 22	Oct. 29	Nov. 5			Oct. 15	Oct. 22	Oct. 29	Nov. 5	
22 Town Districts	17.7	20.2	18.6	19.0	18.9	**Lisburn** -	13.6	4.5	13.6	9.1	10.2
Armagh -	6.9	20.6	13.7	27.5	17.2	**Londonderry**	16.4	8.8	25.2	10.1	15.1
Ballymena	-	19.2	-	23.9	10.8	**Lurgan** -	13.3	8.9	8.9	13.3	11.1
Belfast -	16.0	17.7	18.2	17.2	17.3	**Newry** -	12.6	25.2	-	8.4	11.6
Clonmel -	-	20.5	15.4	46.2	20.5	**Newtownards**	11.4	5.7	-	28.6	11.4
Cork -	17.1	19.9	18.5	25.3	20.2	**Portadown**	5.2	20.7	15.5	5.2	11.7
Drogheda -	-	16.3	20.4	12.3	12.3	**Queenstown**	19.8	33.0	6.6	6.6	16.5
Dublin (Reg. Area) -	21.6	24.9	20.6	21.5	22.1	**Sligo** -	14.4	24.0	19.2	14.4	18.0
Dundalk -	4.0	23.9	4.0	19.9	13.0	**Tralee** -	5.3	21.1	10.6	26.4	15.9
Galway -	58.3	19.4	15.5	15.5	27.2	**Waterford**	5.8	5.8	21.4	15.6	12.2
Kilkenny -	34.3	19.7	34.3	-	22.1	**Wexford** -	18.7	18.7	9.3	28.0	18.7
Limerick -	23.2	27.3	26.0	19.1	23.9						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, November 5, 1904, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in fifteen of the districts to 5.3 in Tralee. Among the 118 deaths from all causes in Belfast are 6 from measles, 2 from scarlet fever, one from enteric fever, and 5 from diarrhœal diseases; and the 37 deaths from all causes in Cork include one from enteric fever and one from diarrhœa.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week amounted to 217—106 boys and 111 girls; and the deaths to 162—77 males and 85 females.

DEATHS.

The deaths registered represent an annual rate of mortality ot 22.3 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the Area, the rate was 21.5 per 1,000. During the forty-four weeks ending with Saturday, November 5, the death-rate averaged 24.4, and was 1.3 below the mean rate for the corresponding portions of the ten years 1894–1903.

There were 6 deaths from measles, and one death from each of the following diseases:—Scarlet fever, influenza, whooping-cough, and diphtheria. Five deaths were attributed to diarrhœal diseases. In the weeks ended October 22 and 29, measles caused 6 and 4 deaths respectively, and in the 4 weeks ended on the same date the deaths registered from diarrhœal diseases were 10, 8, 11, and 6 respectively.

There was one death from croupous pneumonia; there were 9 deaths from broncho-pneumonia, and 2 deaths from *pneumonia*.

The total (32) deaths from tuberculous disease include 8 from tubercular phthisis, 12 from *phthisis*, 3 from tubercular meningitis, 2 from tabes mesenterica, and 7 deaths from other forms of the disease.

Two deaths were assigned to carcinoma, one to sarcoma, and 3 to *cancer* (*malignant disease*).

The deaths of 4 infants were attributed to premature birth.

Of 12 deaths from diseases of the brain and nervous system 4—all of infants under one year old—were caused by *convulsions*.

Twenty-three deaths were due to diseases of the heart or blood-vessels.

Bronchitis caused the deaths of 17 persons.

Two deaths from accidental causes, one being that of a child aged 4 years from burns, and 2 deaths by suicide were registered.

In 8 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 7 children under one year old, and the death of one person aged 69 years.

Sixty-six of the persons whose deaths were registered during the week were under 5 years of age (40 being infants under one year, of whom 6 were under one month old), and 40 were aged 60 years and upwards, including 17 persons aged 70 and upwards, of whom 6 were octogenarians, and one (a woman) was stated to have been aged 90 years.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the cause of death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished by Sir Charles Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended November 5, 1904, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

Cities and Urban Districts	Week ending	Smallpox	Measles	Rubella, or German Measles	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping cough	Cerebro-spinal Meningitis	Total
City of Dublin	Oct. 15	-	*	*	10	1	-	3	-	1	23	16	-	*	*	*	54
	Oct. 22	-	*	*	6	-	-	7	1	2	18	14	-	*	*	*	48
	Oct. 29	-	*	*	6	-	-	4	-	2	8	7	-	*	*	*	27
	Nov. 5	-	*	*	3	-	-	5	-	-	7	17	-	*	*		32
Rathmines and Rathgar Urban District	Oct. 15	-	*	*	-	-	-	-	-	-	3	-	-	*	*	*	3
	Oct. 22	-	*	*	-	-	-	-	-	-	1	-	-	*	*	*	1
	Oct. 29	-	*	*	2	-	-	-	-	-	-	-	-	*	*		2
	Nov. 5	-	*	*	3	-	-	2	-	-	-	-	-	*	*	*	5
Pembroke Urban District	Oct. 15	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-	3
	Oct. 22	-	1	-	-	-	-	-	-	1	1	1	-	-	-	-	4
	Oct. 29	-	9	-	-	-	-	1	-	-	1	-	-	-	-	1	12
	Nov. 5	-	4	-	2	-	-	-	-	1	-	2	-	-	1	-	10
Blackrock Urban District	Oct. 15	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	Oct. 22	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Oct. 29	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Nov. 5	-	1	*	-	-	-	-	-	-	-	-	-	*	*	*	1
Kingstown Urban District	Oct. 15	-	*	*	3	-	-	-	-	-	-	1	-	-	*	*	4
	Oct. 22	-	*	*	2	-	-	-	-	-	-	-	-	-	*		2
	Oct. 29	-	*	*	5	-	-	-	-	-	-	-	-	-	*		5
	Nov. 5	-	*	*	1	-	-	-	-	-	-	-	-	-	*		1
City of Belfast	Oct. 15	2	*	*	18	-	-	3	1	14	14	11	1	*	*		64
	Oct. 22	6	*	*	12	-	-	7	2	25	31	6	1	*	*		90
	Oct. 29	7	*	*	18	-	-	4	-	16	25	18	1	*	*		89
	Nov. 5	5	*	*	13	-	-	3	-	18	17	4	1	*	*		61

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended Saturday, November 5, 1904, 28 cases of measles were admitted to hospital, 27 were discharged, there were 2 deaths, and 63 patients remained under treatment at its close.

Eleven cases of scarlet fever were admitted to hospital, 7 cases were discharged, there was one death, and 60 cases remained under treatment at the close of the week. This number is exclusive of 7 convalescents still under treatment in Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Two cases of typhus fever were admitted to hospital, 2 were discharged, and 3 patients remained under treatment at the end of the week.

Three cases of diphtheria were admitted to hospital, 6 were discharged, there was one death, and 20 cases remained under treatment at the close of the week.

Eight cases of enteric fever were admitted to hospital, 8 were discharged, and 46 cases remained under treatment in hospital at the close of the week.

In addition to the above-named diseases, 6 cases of pneumonia were admitted to hospital, 4 patients were discharged, and 19 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, November 5, in 76 large English towns, including London (in which the rate was 14.9), was equal to an average annual death-rate of 14.9 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 17.8 per 1,000, the rate for Glasgow being 18.6 and for Edinburgh 15.7.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of October,* 1904.

Mean Height of Barometer,	30.076 inches.
Maximal Height of Barometer (12th, at 9 p.m.),	30.485 "
Minimal Height of Barometer (5th, at 6 p.m.),	29.364 "
Mean Dry-bulb Temperature,	50.6°.
Mean Wet-bulb Temperature,	48.3°.
Mean Dew-point Temperature,	46.0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.314 inch.
Mean Humidity,	84.8 per cent.
Highest Temperature in Shade (on 21st),	64.0°.
Lowest Temperature in Shade (on 27th),	34.3°.
Lowest Temperature on Grass (Radiation) (on 13th and again on 27th),	32.8°.
Mean Amount of Cloud	64.5 per cent.
Rainfall (on 11 days),	.454 inch.
Greatest Daily Rainfall (on 16th),	.216 "
General Directions of Wind,	W., S.W.

Remarks.

October, 1904, may be described as a dull yet fine and mild month, with a high barometric pressure, a deficiency of bright sunshine, a damp atmosphere, yet a singularly scanty rainfall. The only very serious and deep depressions which crossed North-western Europe were observed on the 6th, when the barometer fell to 28.80 inches or lower between Scotland and Norway, and on the 17th, on the morning of which day the low barometer reading of 28.90 inches was reported from the Shetlands. Fresh to strong S.W. gales accompanied both depressions. There was very little cold weather, but on the 3rd, 13th and 27th sharp depressions of temperature of a transitory kind occurred in connection with anticyclonic conditions of barometric pressure. On the 27th the thermometer rose in a few hours from 34.3° to 55.8°.

In Dublin the arithmetical mean temperature (51.6°) was very decidedly above the average (49.4°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 50.6°. In the forty years ending with 1904, October was coldest in 1892 (M. T. = 44.8°) and in 1896 (M. T. = 45.0°). It was warmest in 1876 (M. T. = 53.1°). The M. T. in 1898 was 52.8°. In 1903 it was 51.4°.

The mean height of the barometer was 30.076 inches, or 0.236 inch above the corrected average value for October—namely, 29.840 inches—and as much as .571 inch above the low mean pressure of October, 1903. The mercury rose to 30.485 inches at 9 p.m. of the 12th, having fallen to 29.364 inches at 6 p.m. of the 5th. The observed range of atmospheric pressure was, therefore, 1.121 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 50.6°, or 4.7° below the value for September, 1904. The arithmetical mean of the maximal and minimal readings was 51.6°, compared with a thirty years' average of 49.4°. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* × .485), the mean temperature was 51.4°, or 2.2° above the average mean temperature for October, calculated in the same way, in thirty years, 1871–1900, inclusive (49.2°). On the 21st the thermometer in the screen rose to 64.0°—wind, S. to S.W.; on the 27th the temperature fell to 34.3°—wind, N.E. The minimum on the grass was 32.8° on the 13th and also on the 27th.

The rainfall was only .454 inch, distributed over 11 days;

both the rainfall and the rainy days were much below the average. The average rainfall for October in the thirty-five years, 1866–1900, inclusive, was 2.940 inches, and the average number of rainy days was 18. In 1880 the rainfall in October was very large—7.358 inches on 15 days. In 1875, also, 7.049 inches fell on 26 days. On the other hand, in 1890 only .639 inch fell on but 11 days; in 1884, only .834 inch on but 14 days; and in 1868 only .856 inch on 15 days. In 1903 the October rainfall was 2.613 inches on 22 days. It will be seen from the above figures that the scanty rainfall of October, 1904, establishes a record for this month in Dublin.

High winds were noted on 9 days, but attained the force of a gale on only two occasions—the 5th and 17th. The atmosphere was more or less foggy in Dublin on the 10th, 13th, 19th, 20th, 26th, 27th, and 28th. The duration of bright sunshine was estimated at only 93.25 hours, compared with 127.25 hours in 1900, 115.25 hours in 1901, only 84.25 hours in 1902, and 132.75 hours in 1903. A solar halo was seen on the 26th.

The rainfall in Dublin during the ten months ending October 31st amounted to 19.601 inches on 163 days, compared with 12.366 inches on 123 days during the same period in 1887 (the dry year), 27.863 inches on 177 days in 1900, 20.466 inches on 145 days in 1901, 24.481 inches on 172 days in 1902, 27.882 inches on 196 days in 1903, and a thirty-five years' average of 22.820 inches on 163 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 30.077 inches, the range of atmospheric pressure being from 30.486 inches at 9 p.m. of the 12th to 29.413 inches at 9 p.m. of the 5th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 51.5°. The arithmetical mean of the daily maximal and minimal temperatures was 51.7°. The screened thermometers rose to 64.8° on the 21st, and fell to 34.3° on the 27th. On this latter date the grass minimum was 27.5°, while on the 13th it was 27.4°. On the 1st the black bulb *in vacuo* rose to 110.9°. Rain fell on only 7 days to the amount of .416 inch, the greatest fall in 24 hours being .200 inch on the 16th. The duration of bright sunshine, according to the Campbell-Stokes recorder was 84.25 hours, of which 9 hours occurred on the 1st. The mean daily sunshine was 2.7 hours. The mean temperature of the soil at a depth of one foot was 51.6° at 9 a.m.

and 51.8° at 9 p.m.; at a depth of 4 feet, it was 53.2° at 9 a.m. and 53.1° at 9 p.m.

Mr. R. Cathcart Dobbs, J.P., reports that the rainfall in October at Knockdolian, Greystones, Co. Wicklow, amounted to only .630 inch on 10 days. Of this quantity, .190 inch fell on the 16th. From January 1st, 1904, up to October 31st, rain fell at Knockdolian on 151 days to the total amount of 22.087 inches. In 1893 the rainfall in the corresponding ten months was 17.801 inches on 133 days; in 1897, 32.730 inches on 171 days; in 1898, 24.177 inches on 140 days; in 1899, 30.000 inches on 150 days; in 1900, 33.311 inches on 155 days; in 1901, 28.030 inches on 135 days: in 1902, 31.811 inches on 140 days, and in 1903, 30.965 inches on 181 days.

At Cloneevin, Killiney, Co. Dublin, the rainfall in October was only .29 inch on 12 days, compared with .710 inch on 14 days in 1893, 6.460 inches on 17 days in 1894, 2.760 inches on 20 days in 1902, 3.820 inches on 26 days in 1903, and a nineteen years' average (1885–1903) of 2.665 inches on 16.8 days. On the 16th .10 inch fell. Since January 1, 1904, 19.100 inches of rain have fallen at this station on 156 days. Mr. Robert O'B. Furlong, C.B., writes:—"This (.29) inch is the lowest rainfall recorded for October since 1883. During the 19 years, more rain fell in October than in any other month, except August. The figures being—August, 59.78 inches; October, 59.64 inches. The highest records for October were—1886, 5.88 inches on 25 days; 1894, 6.46 inches (*Max.*) on 18 days; 1896, 5.23 inches on 20 days; and the lowest, 1890, .45 inch on 11 days; 1893, .71 inch on 14 days."

Dr. B. H. Steede reports: At the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was .868 inch on 13 days, compared with 3.175 inches on 13 days in 1897, 4.385 inches on 17 days in 1898, 1.484 inches on 11 days in 1899, 3.551 inches on 14 days in 1900, 3.200 inches on 21 days in 1901, 3.577 inches on 18 days in 1902, and 4.155 inches on 26 days in 1903. The heaviest fall in 24 hours was .370 inch on the 16th. The highest temperature in the screen was 63.2° on the 18th, the lowest was 37.6° on the 25th. At this Second Order Station the rainfall from January 1 to October 31, inclusive, amounted to 26.562 inches on 168 days, compared with 26.479 inches on 139 days in the corresponding ten months of 1898, 27.643 inches on 140 days in 1899, 28.599 inches on 150 days in 1900, 24.953 inches on 142 days in 1901, 29.742 inches on 154 days in 1902, and 35.516 inches on 201 days in 1903.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 9 days to the amount of .42 inch, compared with 2.40 inches on 21 days in 1901, 3.45 inches on 24 days in 1902, and 3.38 inches on 26 days in 1903. The greatest measurement in 24 hours was .21 inch on the 16th. The mean temperature in the shade was 51.6°, the range being from 62° on the 18th to 37° on the 27th. The mean temperature of October, 1901, was 50.0°; of October, 1902, 50.9°; and of October, 1903, 50.8°.

Mr. William Miller states that in the City of Cork there were 20 days with rain during the month; total fall, 3.06 inches, which was 0.24 inch under the average. The greatest day's rain was that of the 22nd—0.73 inch. The rainfall of the past ten months was 32.81 inches, which was 3.12 inches over the average for the same period, but less than the corresponding period of last year by 13.65 inches.

At the Ordnance Survey Office, Phœnix Park, Dublin, the October rainfall was .650 inch on 10 days, compared with 2.339 inches on 24 days in 1903. The heaviest fall in 24 hours was .330 inch on the 16th. At the Royal Botanic Gardens, Glasnevin, rain fell on 10 days to the amount of .480 inch, the greatest daily fall being .330 inch on the 16th.

Mr. A. A. Smith returns the rainfall at the Railway Hotel, Recess, Connemara, Co. Galway, as 5.730 inches on 14 days. Of this large precipitation, 2.170 inches were recorded on the 16th and 1.310 inches on the 27th. The observer reports that the weather of October was exceedingly mild, with many hours of bright sunshine.

Dr. J. Byrne Power, F.R. Met. Soc., D.P.H., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 52.8°, being 0.7° above the average for the month during the previous 6 years, the extremes being—highest, 64.2°, on the 18th; lowest, 38.5°, on the 13th. At Bournemouth the mean was 52.4°, the extremes being—highest, 65°, on the 19th; lowest, 40°, on the 29th. The mean daily range of temperature was 9.7°, and at Bournemouth, 11.7°. The mean temperature of the sea at Sandycove bathing-place was 54.5°, being 0.4° below the average for the month during the previous 6 years. It is remarkable that the mean temperature of the sea is so close to the average this month, it having been below the average for each and every month since November, 1903, the differences varying from 1.8° to 3.1°. The relative humidity was 82 per cent., being 3 per cent. higher than the average for the month during the previous 3 years. The rainfall measured only 0.19 inch on 9 days, being 2.81 inches below the average for the month during 14 previous years (1873–83) and (1901–03), the lowest for any month during these years, the next lowest being 0.42 inch for January, 1876. At Bournemouth the rainfall was 2.68 inches on 15 days, and at Dungeness, one of the driest stations on the south coast of England, it was 1.70 inches on 15 days. The total duration of bright sunshine was 90.2 hours, as compared with 90.9 hours at Phœnix Park, 97.2 hours at Valentia, 76.1 hours at Parsonstown, 102.4 hours at Southport, and 73.1 hours at Eastbourne.

THE ROYAL UNIVERSITY OF IRELAND.

HIS MAJESTY'S Royal Warrants have been received appointing Rt. Hon. Lord Killanin, Sir William Thomson, C.B., M.D., and Dr. Bertram C. A. Windle, President of Queen's College, Cork, to be Members of Senate.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1905, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College, Thomas R. Neilson, M.D., on or before May 1, 1905. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope, having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1904 was not awarded, no essay of sufficient merit, in the judgment of the Committee, having been submitted in competition.

PERISCOPE.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on October 19, the following gentlemen, having passed the requisite examinations, were admitted Fellows of the College:—Wilfred Allport, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Birmingham; Simon Alexander Ballantyne, M.B., Ch.D. Edin., Abington; Donald Duff, L.R.C.S.E., Glasgow; Harold Dyer, M.R.C.S. Eng., L.R.C.P. Lond., South Croydon; Duncan Campbell Lloyd Fitzwilliams, M.B., Ch.B. Edin., Edinburgh; James Graham, M.B., C.M. Edin., Cockermouth; Donald Alexander Hingston, M.D. Laval, Montreal; Christopher Tredwell Holford, M.R.C.S. Eng., L.R.C.P. Lond., Birmingham; Edwin Henry Irwin, M.B., C.M. Edin., Co. Monaghan; Robert Bathgate Johnston, L.R.C.S.E., Edinburgh; Nicholas John Kalomiris, M.R.C.S. Eng., L.R.C.P. Lond., London, S.E.; James Graham McBride, M.B., Ch.B. Edin., Edinburgh; Daniel Sayre Mackay, M.D., C. M. McGill, L.R.C.S.E., Nova Scotia; Mrigendralal Mitra, L.M. & S. Punjâb, Calcutta; William Newlands, M.B., Ch.B. Edin., Edinburgh; Robert Ramsey, M.B., Ch.B. Glasg., Glasgow; Athelstan John Henton Saw, M.D., Ch.B. Camb., Perth, West Australia; Fred William Sumner, M.B., Ch.B. Camb., M.R.C.S. Eng., L.R.C.P. Lond., Preston, Lancs.; John Charles Venniker, M.D., Ch.B. Durh., M.R.C.S. Eng., L.R.C.P. Lond., London, W.; David Llewelyn Williams, L.R.C.S.E., Edinburgh; and Oswald Samuel Wraith, L.R.C.S.E., M.D. Durh., Darwen, Lancs.

GARLIC IN TUBERCULOSIS.

In a paper in *American Medicine*, September 24, 1904, Dr. John Knott, of Dublin, reviews the therapeutics of garlic (*Allium sativum*) and calls attention to (*a*) the favourable reports which have been issued in connection with its administration in serious bronchial affections, and (*b*) the experiments of Carazzani, who attempted to show that a sufficiently generous use of garlic in tuberculosis will produce immunity to its infection. Of a group of guinea-pigs kept in an atmosphere charged with tubercle bacilli, those whose daily diet had contained one gramme of garlic were found at the end of three months to be free from tuberculosis, while the others were all badly infected. The efficiency of garlic in pathological conditions of the respiratory mucous membrane is due to its essential oil, which is almost wholly composed of allyl sulphide. This is eliminated very largely through the respiratory tract.—*Journal of the American Med. Assoc.*, Oct. 8, 1904.

CASE OF JUVENILE TABES.

To the *Wiener klinische Rundschau*, No. 35, 1904, R. Kaufmann contributes a case of hereditary infantile tabes. The patient. a lad of 10 years, was the son of a tabetic father and a healthy mother. At the age of 6 he developed incontinence of urine, and at 9 gastric crises. Kaufmann thinks that a hereditary tendency to tabes must frequently occur, but that it is overlooked when the patients are not seen until adult age. He concludes with the remark that we know certain important predisposing causes for tabes, but that the direct cause for it is as much a mystery as ever.—*Journ. of the American Med. Assoc.*, Oct. 8. 1904.

AWARDS AT THE ST. LOUIS EXHIBITION.

GRATIFYING evidence of the recognition extended to British commercial enterprise is furnished by the honours awarded by the Committee of the St. Louis Exhibition to Messrs. Burroughs, Wellcome & Co.'s exhibit of "Wellcome" Brand Chemicals, "Tabloids," and other pharmaceutical products and "Tabloid" medical equipments. Three grand prizes and three gold medals have been conferred for the scientific excellence of these products. We are also glad to be in a position to announce that the Grand Prix at the St. Louis Exhibition has been awarded to Apollinaris Natural Mineral Water. The Apollinaris spring was discovered in the year 1851, and the bottled water is exported to all parts of the world, the sales now amounting to 30,000,000 bottles annually.

LITERARY NOTE.

THE term "fever" embraces so many illnesses, from our familiar mumps, influenza and pneumonia to typhus, enteric, and yellow fever, that a book such as the "Manual of Fever Nursing," shortly to be issued by Messrs. Kegan Paul, of Dryden House, is equally valuable in Great Britain or in the Colonies. It is written by Reynold Webb Wilcox, a professor of medicine with a large hospital experience, and deals exhaustively with fevers, their causes and symptoms, and their treatment in accordance with the present state of practice. The complete but easily understood directions for nursing, and the clinical charts suitable for different cases, make this an invaluable handbook for nurses.

In Memoriam.

ROBERT HENRY MOORE, F.R.C.S.I.

Obiit October 23, 1904, anno ætatis suæ LXXXVIII.

WITH deep regret we chronicle the death of ROBERT HENRY MOORE, Fellow of the Royal College of Surgeons in Ireland and Senior Consulting Dental Surgeon to the Incorporated Dental Hospital of Ireland. The sad event took place at MR. MOORE's residence, 29 Upper Merrion-street, Dublin, shortly after noon on Sunday, October 23, after a brief illness of, indeed, less than 14 days' duration in its acute stage. Born so long ago as April 5th, 1816, ROBERT HENRY MOORE had reached the patriarchal age of 88½ years when the call to rest came to him. His long life was one of strenuous and active toil, and, happily, robust physical health. Educated chiefly in Dublin, he studied medicine and surgery in the School of the Royal College of Surgeons in Ireland, obtaining the Fellowship of the College in the year 1844, just sixty years ago. Some forty-seven years later he was elected on the Council of the College as a representative of Dental Surgery and Science by the votes of his brother Fellows. MR. MOORE was in early life apprenticed to Mr. Samuel M'Clean, the leader of the dental surgeons in Dublin at the time. For very many years after he was qualified he enjoyed a large and lucrative practice, and filled the office of Surgeon-Dentist-in-Ordinary to the Lord Lieutenant of Ireland during several Viceregal reigns. Throughout his long life he was at all times tolerant of the opinions of others, and so he made hosts of lifelong friends, and never an enemy. He was a Life Member of the Royal Dublin Society and of the Royal Zoological Society of Ireland. He was also a liberal supporter of the great Masonic charities, and ranked high in the Order of the Friendly Brothers of St. Patrick. In social life his charming personality and courtly old-time manners made him a great favourite ; by his home circle and more intimate friends he was much beloved. In him Dublin has lost a good citizen and an upright man.

In his immediate family, ROBERT MOORE was the last survivor of his generation. His father was John William

Moore, a well-known medical practitioner and scientific chemist in Dublin during the first two decades of the nineteenth century. His elder brother was William Daniel Moore, M.D. Dubl. et Cantab., M.R.I.A., who died so long ago as 1871, aged 58½ years. His younger brother, Dr. Charles Frederick Moore, died on the morning of Christmas Day, 1903, aged 83 years. A memoir of him was published in the number of this Journal for February, 1904.

Robert Moore married, in 1864, Alicia, daughter of the late Dr. George Peirce, of Acres Hall, Tullamore, King's County, who survives him, together with three sons and three daughters.

NIELS RYBERG FINSEN.

When Niels Finsen passed away on the 24th of September, 1904, at the early age of 43, the Medical Profession lost one of its most distinguished members as a man of science, as a physician, and as a man.

Finsen was born in Thorshavn, in the Faröe Islands, on the 15th of December, 1860. He commenced his scientific career, to all appearance, but poorly equipped for it. He passed his medical examination in the summer of 1890 without any particular distinction, and the only official post ever held by him was that of demonstrator of anatomy at the University of Copenhagen, and that only for a short time. He never studied at any of the laboratories or other institutions connected with the University, or took a doctor's degree ; in fact, the ties which bound him to official representative medical science in Copenhagen were but slight. Finsen, however, possessed that unquenchable thirst for experiment and for investigation of all natural phenomena, which is the distinguishing mark of the true man of science. The two phenomena which particularly attracted his attention were Light and his own disease. The latter played an important part in Finsen's life, both as being the object of his exhaustive researches and therapeutic experiments, and as forcing him to lead the life of an invalid from a very early age, the first symptoms showing themselves when he was only 23. His weak heart prevented all active exercise, and his lively intelligence and vivid imagination were thus often restricted to purely introspective activity. FINSEN described his own disease in the Danish Medical Journal, *Ugeskrift for Læger*, 1894, in one of his first papers ever published, which he characteristically concludes by saying that he has published it in order to give other sufferers some of the relief which he has himself obtained. The malady was a heart disease, accompanied by ascites and very considerable swelling of the liver and spleen; the numerous complications were first fully understood at the *post-mortem* examination, which was performed at the express desire of the deceased.[a] Only this year FINSEN published a new work based on experiments made upon himself, which, like the previous ones, were intended to relieve the painful symptoms accompanying his disease and to prolong life—an art which FINSEN, who possessed an uncommon degree of vitality, understood as few others have done.

Light was, however, that phenomenon which principally interested FINSEN, and he recognised in it a natural force of the greatest therapeutic importance. It is the choice of this object for scientific research, and more particularly in the choice of methods and of suitable diseases, that has proved FINSEN so superior to the great majority of scientific investigators—by the novelty and greatness of the subject, the simplicity of the methods employed, and the genius with which he seized upon the disease, which peculiarly adapted itself to light-treatment—lupus of the skin.

FINSEN'S first paper on Light appeared in the Danish Medical Journal, *Hospitals-Tidende*, in 1893. His first English essay on the subject did not, however, appear until 1901 ("Phototherapy," Edward Arnold, London). One of the experiments published in this paper was extremely characteristic of the man; he had with Indian ink painted stripes on his arm, and then exposed it to the sun for several hours. On washing off the ink, the skin beneath was found to be pale, whilst the intermediate stripes were red and erythematous.

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[a] The principal results of the *post-mortem* examination were considerable symphysis pericardii, with secondary degeneration of the myocardium; considerable insufficiency of the valves; enormous deposits of chalk in the pericardium; chronic pleurisy and peritonitis. and an enormous thickening of the capsules of the liver and spleen, with considerable cirrhosis of the liver.

In the same year appeared (also in *Hospitals-Tidende*) his well-known paper on the treatment of small-pox, which was also published in the *British Medical Journal* in 1898, 7th of December. In this same journal FINSEN published another article on the same subject, June 6th, 1903. Small-pox had, it is true, unknown to FINSEN, been previously treated in the same manner, but quite empirically, and FINSEN was the first to put the treatment, which has given most satisfactory results, on a scientific basis.

In the succeeding years FINSEN wrote several articles on the influence of light upon the organism, dwelling principally upon its inciting and irritating action. In 1896 an independent work in Danish appeared, which, like all FINSEN's other literary efforts, was short, but clear and concise, under the title "On the Application of Concentrated Chemical Rays in Medicine." Here FINSEN touched upon another characteristic of light—the bactericide—and gave the history of 11 cases of lupus treated with concentrated rays. The fame which FINSEN won for himself in this province of Medicine cannot be considered as the result of an accidental seizing of the right object, but was the fruit of scientific research, in conjunction with the genius which divines and grasps the right conclusion, even where proofs are feeble.

FINSEN's first experiments with light-treatment were made in the Copenhagen Municipal Electric Station. The Commune Hospital shortly after opened its doors for "Finsen's Medical Light Institute," founded in 1896. The great influx of patients in a few years necessitated the removal of the Institute to its present quarters, where about 1,000 lupus patients have been treated. Eight volumes of "Reports from Finsen's Medical Light Institute" have appeared, in which FINSEN's papers and papers written by him in conjunction with others take an important place.

Although his health prevented FINSEN from seeing much of the patients of the Institute, still it was evident that he was possessed of all the qualities of the good physician. He was a close observer and careful examiner, as clearly shown in his notes on his own case. He was also humane and a warm sympathiser with all suffering. He erected a sanatorium for heart and liver complaints, to which and to the Light Institute he gave the greater part of the Nobel prize which was conferred upon him shortly before his death. The patients of the Light Institute found in him a hearty and sympathetic friend, who aided them in many ways.

All those who have had the privilege of following Finsen in his career from its earliest beginning, when, as a young, unknown man, he made his experiments in the window of his little room—he experimented as long as his strength allowed him, and invented many different things—to the time when he was at the head of a great world-renowned Institute, the recipient of the greatest marks of distinction from scientific bodies and from Royal persons, can testify that he was always the same quiet and modest man. The kind smile and gentle manner so characteristic of him were ever the same. He had a child's gentle and loving nature, combined with a man's will and energy—an energy which his illness could not subdue. He struggled to the last as a true hero, supported by his noble wife's self-sacrificing affection; and when at last he was overpowered and death drew near, he awaited it calmly, looking back upon his short but glorious life-work with an earnest hope that light-treatment might steadily advance and be the means of bringing relief to many suffering fellow-mortals.

Holger Mygind.

WILLIAM COX NEVILLE, M.A., M.D. Univ. Dubl., F.R.C.P.I.

In the death of Wm. Cox Neville, on Tuesday, November 15th, the medical profession in Dublin has suffered a genuine loss. He was but 49 years of age, and his illness (acute uræmia) lasted only a few days. Dr. Neville was the second son of the late John Neville, C.E., County Surveyor of Louth. Few men had ever won as thoroughly and as deservedly as he the admiration and love of those with whom he was brought into social or professional contact.

In Memoriam.

As a student of medicine in the University of Dublin Dr. Neville's career was most brilliant. He obtained first place at each of his Medical Degree Examinations. He was the second candidate to obtain the degree of M.A.O., and as far as we know the only one to whom, on the recommendation of the examiners, this degree was awarded "Stipendiis Condonatis."

For over three and a half years he performed the duties of Assistant to the Master of the Coombe Lying-in Hospital, where he exhibited that singular power of imparting knowledge which characterised him through life. During this time, amongst other things, he invented the Axis Traction Forceps with which his name is inseparably connected. He also, for some time, held the post of Joint Lecturer on Obstetrics with Sir Arthur V. Macan in the old Carmichael School of Medicine, and was Physician to the Institution for the Diseases of Children, Pitt-street. He quickly rose to the highest place in the estimation of his *confrères*, and but for an illness which for several years prevented his taking an active part in the professional life of Dublin would, without doubt, have early reached the very highest position in his specialty.

In Berlin, Freiburg and Marburg he worked for some years at Obstetrics and Gynæcology, as well as at Pathology and Bacteriology, and on his return to Dublin was appointed Pathologist to the Rotunda Hospital, a post which he held till his death.

He devoted special attention to the morbid histology of his own branch of the profession, and this difficult subject became in his hands, when combined with his knowledge of the clinical side of gynæcology, a powerful aid to diagnosis. The many interesting exhibits which he showed at the Royal Academy, chiefly in the Pathological Section, were always well worked up and lucidly explained.

For many years he was a constant contributor to the pages of this Journal, which were enriched by his masterly Half-yearly Reports on the Progress of Midwifery and Gynæcology.

His bright intelligence, his genial sympathy, and the entire kindliness of his nature, endeared him to all; but only those who knew him intimately, and with whom he worked, could appreciate his true worth, and the greatness of the loss which scientific gynæcology has sustained by his death.

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